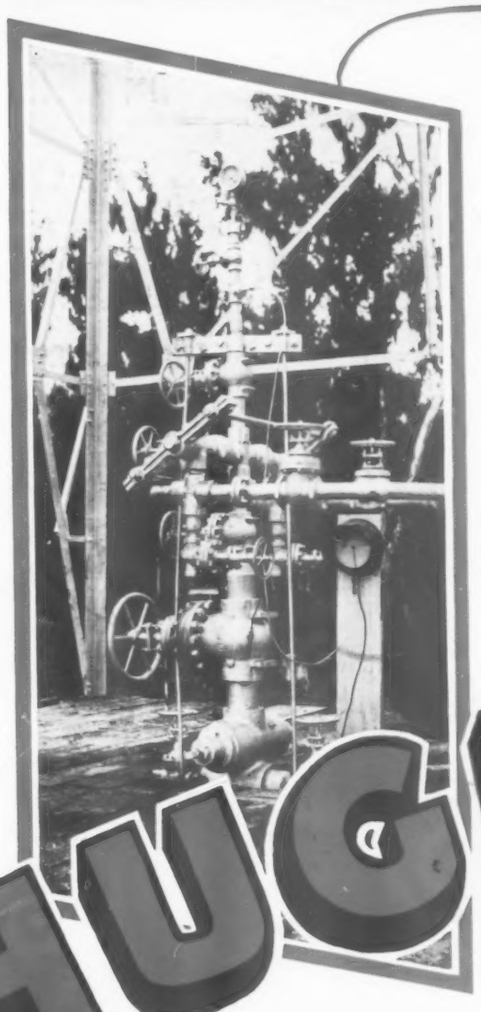
15 CENTS A COPY

THE OIL WEEKLY

Devoted Exclusively To The Production and Transportation of Oil and Gas

Engineering News Statistics



Shell Petroleum Corporation's Wilbert No. 4, White Castle Dome, Iberville Parish, La.

1—7", 3000-lb. test Hughes Drilling Valve.
4—3", 3000-lb. test Hughes Manifold Valves.
2—2", 3000-lb. test Hughes Manifold Valves.
3—3", 3000-lb. test Hughes Crosses.
2—3", 3000-lb. test Hughes Tees.
2—Hughes "Shell Type" Well Chokes.

This is a high-powered oil well, ..but the owners don't worry about the pressure ..... *Why not?* see those

HUGHES VALVES?

-that's WHY!

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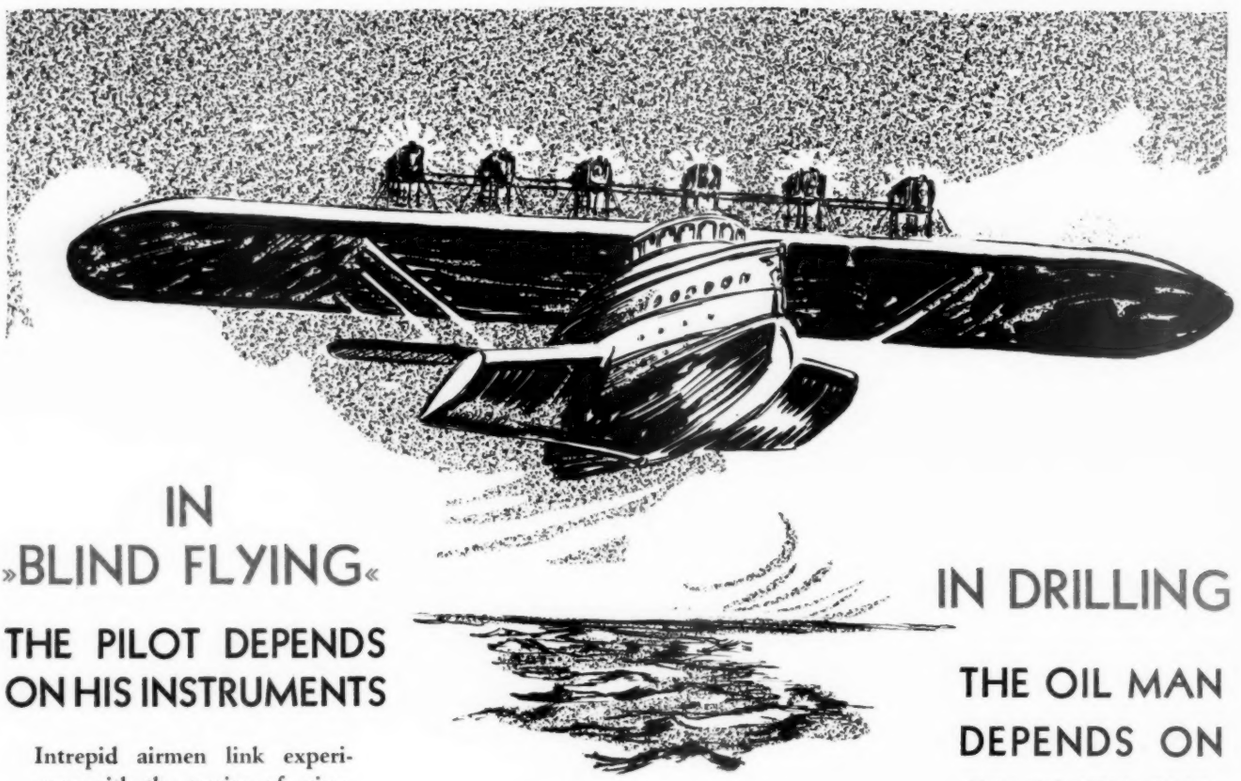
November 28, 1930

ADVERTISERS INDEX, LAST PAGE

EDITORIAL INDEX, PAGE 21



IN »BLIND FLYING«

THE PILOT DEPENDS ON HIS INSTRUMENTS

Intrepid airmen link experience with the genius of scientific development to span the waters of the Atlantic. Dodging storms, fog, and cloud banks, they fight their way over the monotonous stretch of waves behind the song of their motors. Through night and part of the daylight hours there is only the instrument board to tell them altitude, direction, and speed. They stake everything on their instruments. They must be accurate and dependable if their objective is to be achieved.

IN DRILLING

THE OIL MAN DEPENDS ON QUALITY SUPPLIES AND RELIABLE SERVICE

Dependable and timely service . . . full lines of reliable machinery and tools . . . these have made the NORVELL-WILDER MAN a byword to the man on the derrick floor and a source of assurance to the oil executive in his office.

A few of the well known lines available to you through Norvell-Wilder

Alemite Company
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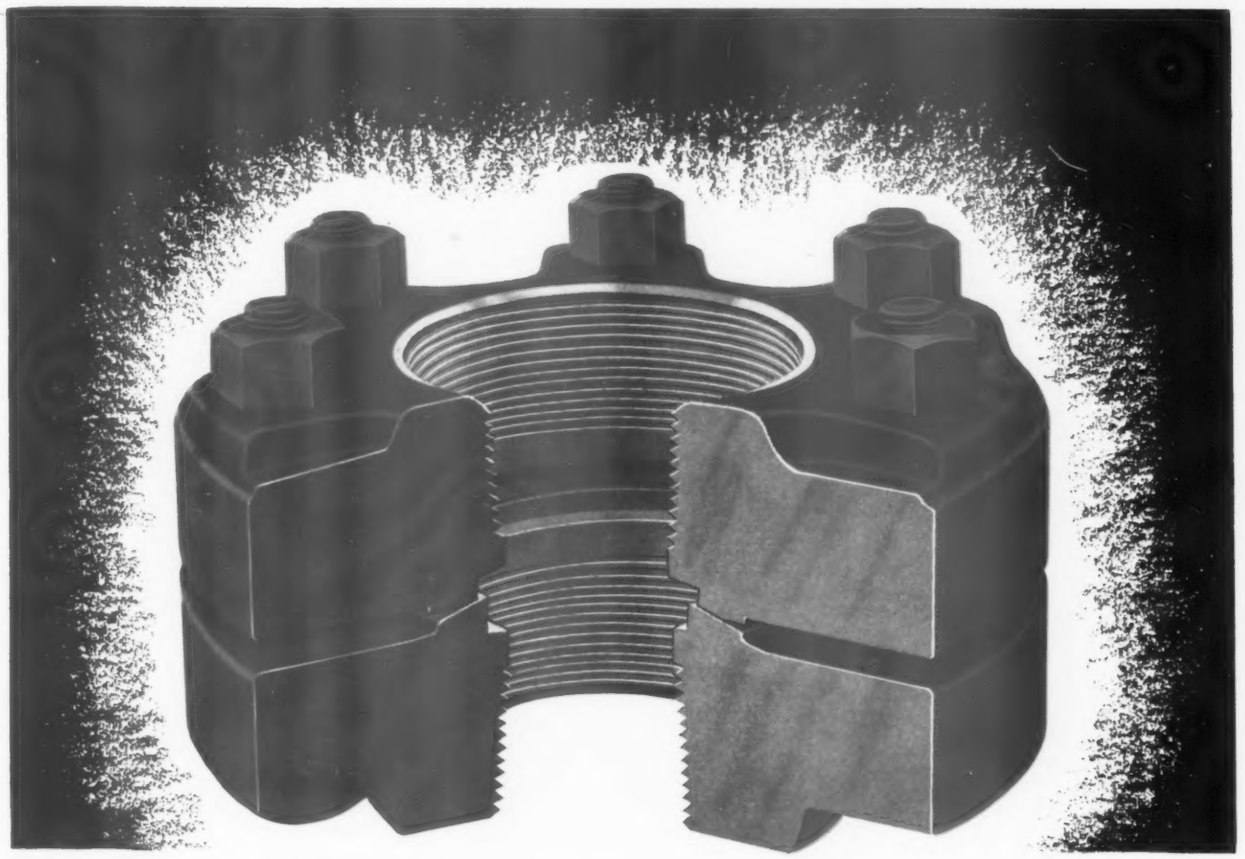


A NEW Gaso Certified Malleable Ground Joint Flange Union

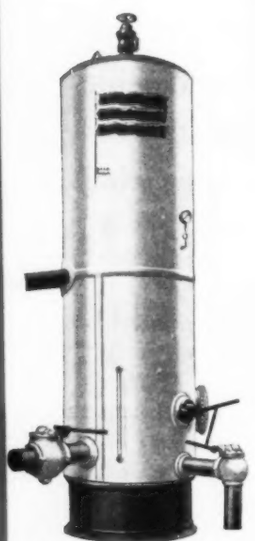
» » » » Extremely high pressure with light weight 2000-lb. hydraulic test » » » » Certified malleable iron » » » » Metal-to-metal face with a ground ball joint which permits tight joint without pipes being in perfect alignment » » » » Pipe sizes 2″ to 8″

GASO PUMP & BURNER MFG. CO.—Tulsa, Okla.
Dallas, Texas New York, N. Y.

GASO PUMPS
for every oil industry need

Strength

The improved AMERICAN Separator is made of flange steel, one of the choicest sections in a steel ingot. The shell is of extra thickness, and is electrically welded, which joint is 90% of sheet strength. The heads are 1/8" thicker than the shell, as recommended by the A. S. M. E. Boiler code. The flanges are made of cast steel. Each separator is thoroughly tested in our shops with compressed air for leaks, as well as a hydrostatic (cold water) test to twice the maximum working pressure. *Thus an absolute assurance of supreme strength!*



May be rolled like a Barrel.

The Improved AMERICAN Oil and Gas Separators

Equipped with the B. S. & B. Spray Condensers

This Separator is revolutionizing oil and gas separation throughout the Mid-Continent and Rocky Mountain fields. Its construction is unique; it is built on proper and proved principles. Bone Dry Gas assured! The inside float is *man size* —ten times the capacity of an outside valve. The inside tangential inlet, B. S. & B. Spray Condenser, Disc Foam Baffle, Force Breaker, low fittings, etc., all add for less waste, more convenience, greater fool-proofness, and more efficiency. See the AMERICAN in Action! *"See AMERICAN First".*

May a representative call to discuss these Separators? Or may we send you literature? Please address Dept. AA12.

American Tank & Equipment Corp.

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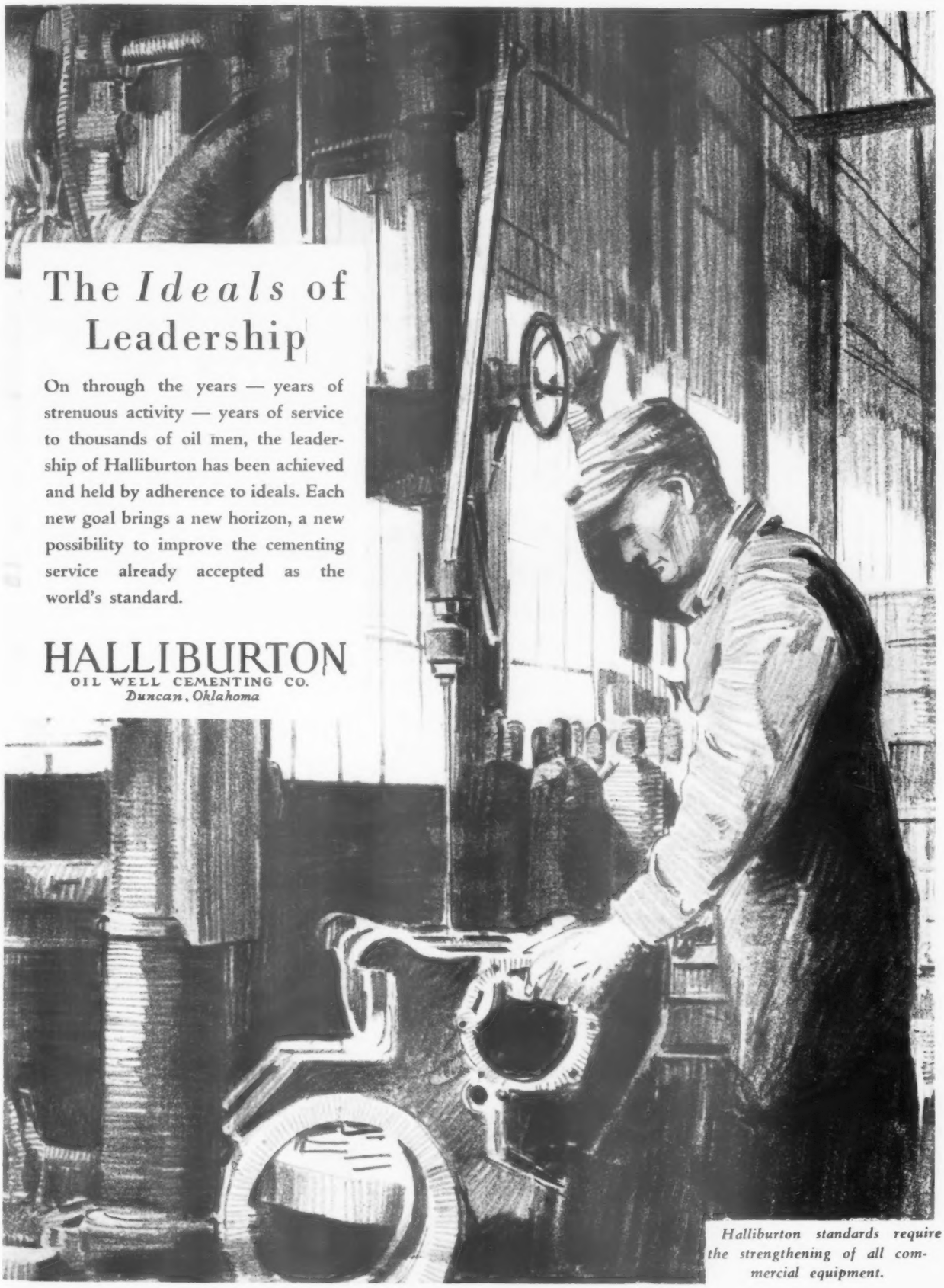
OKLAHOMA CITY — OKLAHOMA

(Formerly AMERICAN TANK COMPANY)



The *Ideals* of Leadership

On through the years — years of strenuous activity — years of service to thousands of oil men, the leadership of Halliburton has been achieved and held by adherence to ideals. Each new goal brings a new horizon, a new possibility to improve the cementing service already accepted as the world's standard.

HALLIBURTON
OIL WELL CEMENTING CO.
Duncan, Oklahoma

Halliburton standards require the strengthening of all commercial equipment.

Would you, as a reader of The Oil Weekly, like to receive copies of THE CEMENTER as issued? Each number contains interesting information about cementing and drilling fluids. There is no cost or obligation—simply sign your name below and mail to Halliburton Oil Well Cementing Co., Duncan, Oklahoma.

Name..... Address.....

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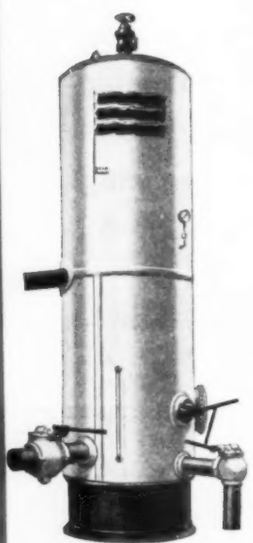

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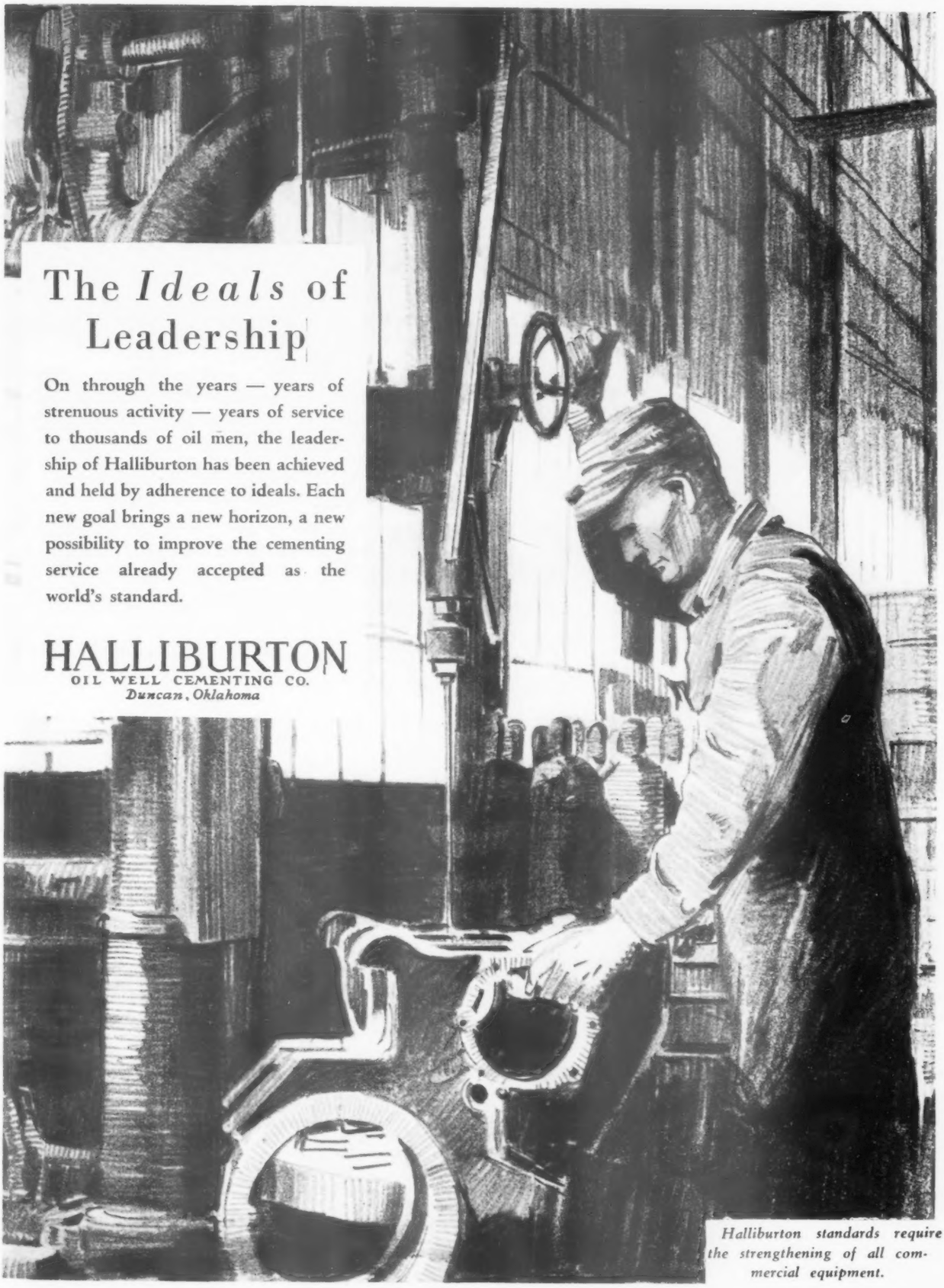

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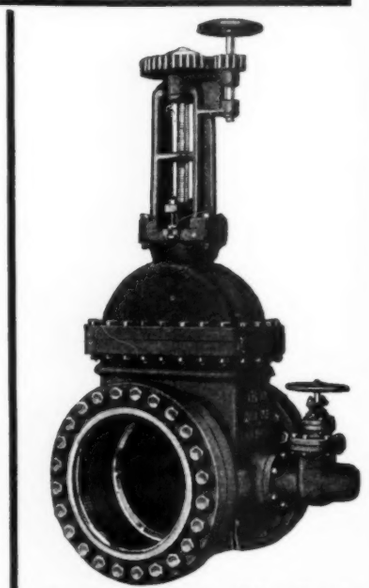
Name..... Address.....

Darval Semi-Steel Gate Valve, Dar-a-loy trimmed—for oil pipe lines and pumping stations.



Darval Semi-Steel Gate Valve, Dar-a-loy trimmed—for natural gas pipe lines and compressor stations.

Darling Valves are truly economical on cross-country lines

You may pay a little more for Darlings than ordinary valves, but actually you are getting a bargain—the most for your money.

Although you find them no bigger, or prettier, or heavier than others at the same price, you will learn after getting years of trouble-free service that Darlings have a lot more **in** them in the shape of easy operation, unusually long life, and fewer repairs.

This extra measure of service, right out on the line, is the reason why so many of the larger oil and natural gas companies have standardized on Darling Gate Valves.

Catalog No. 15 contains complete information about Darling Gate Valves. To get your copy just fill in and mail the coupon.

DARLING VALVE & MFG. CO.,
Williamsport, Pa.

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Address .....

Darling Valve & Manufacturing Co.
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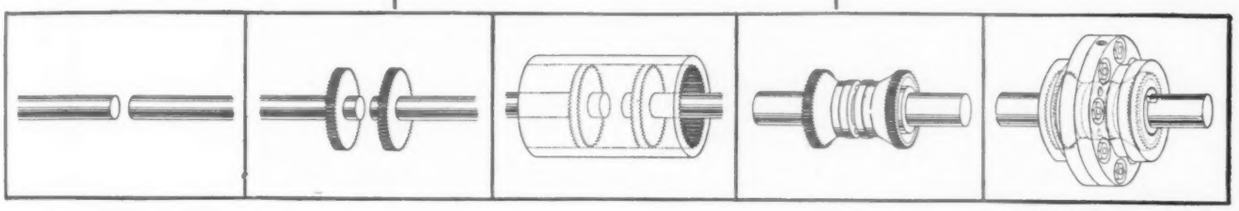
H. M. HEIN, Room 1405, 152 West 42nd Street, New York, N. Y.

DARLING
GATE VALVES

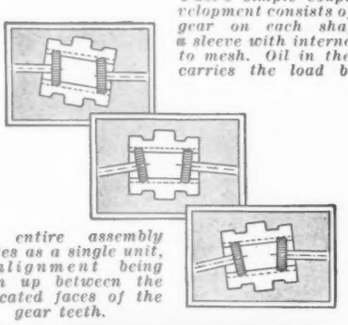
OIL CARRIES THE LOAD

Do You Understand FAST'S New and Better Coupling Principle



SEE the development of Fast's shaft coupling design. A simple mechanical principle is used to eliminate all flexible pins, bushings, springs, discs or grids.

Two spur gears, one on each shaft end, are in mesh with the internal gears of a floating sleeve. The entire assembly rotates as one unit, misalignment being compensated for between the lubricated faces of the gear teeth.



Fast's simple coupling development consists of a spur gear on each shaft end, a sleeve with internal gears to mesh. Oil in the sleeve carries the load between.

The entire assembly rotates as a single unit, misalignment being taken up between the lubricated faces of the gear teeth.

What is the lubrication principle? The casing is partly filled with oil. As the coupling revolves the oil is distributed between the gear teeth by centrifugal and capillary action.

In operation, the teeth rock slightly back and forth at each revolution. This rocking action is so cushioned by the oil film that there is actually no metal-to-metal contact and therefore no wear. This has been definitely demonstrated mathematically, experimentally and in actual operation on thousands of couplings on practically every type of drive.

Fast's Coupling on Jackson hot oil pump, Continental Oil Co., Sapulpa, Okla.

Mail the coupon and we will send you the new free bound catalog showing how and why Fast's couplings are eliminating coupling problems and prolonging the life of machinery in your industry. The catalog is free and should be in your permanent files.

FAST'S COUPLING

Self-Aligning

NO FLEXIBLE MATERIALS

Send for NEW Catalog

THE BARTLETT HAYWARD CO.

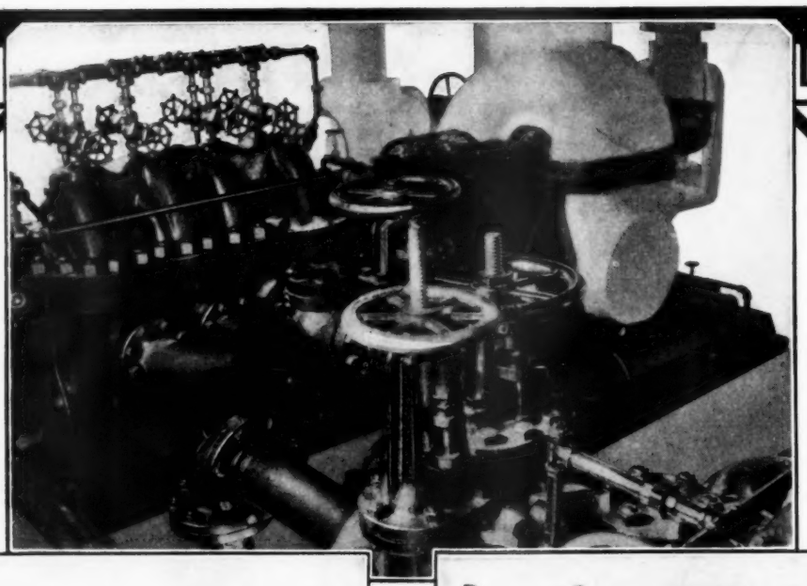
217 Scott Street - - Baltimore, Md.

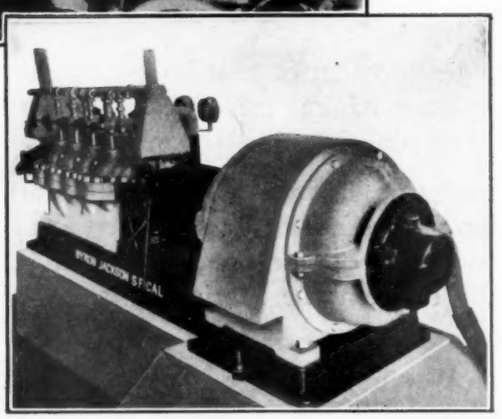
Send me the free bound copy of the new Fast's 10th Anniversary Catalog showing varieties of designs and installations, containing valuable data on coupling installation.

NAME.....

FIRM NAME.....

ADDRESS.....





GASOLINE PIPE LINE PUMPS

The pump shown in the upper photograph starts casinghead gasoline on its way through a 100-mile pipe line. The lower photographs show the intermediate booster station automatic control apparatus and pump. The simplicity and inexpensiveness of such an installation commends it to the practical operator. Byron Jackson oil pipe line pumps are designed and built specifically for pipe line service and embody all of the mechanical and hydraulic features particularly fitting them for such work. Stocks of pumps and parts at strategic points and a nation-wide sales and service organization insure satisfaction in the use of Byron Jackson centrifugal pumps. May we figure on your next job?

SINCE 1872

BYRON JACKSON CO.

Factories: BERKELEY, Los Angeles, Visalia, Calif.

Branches: NEW YORK and CHICAGO

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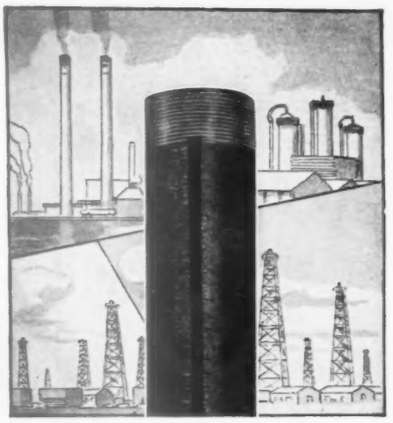
BYRON JACKSON

CENTRIFUGAL PUMPS FOR EVERY SERVICE

Remember TONCAN FOR PERMANENCE

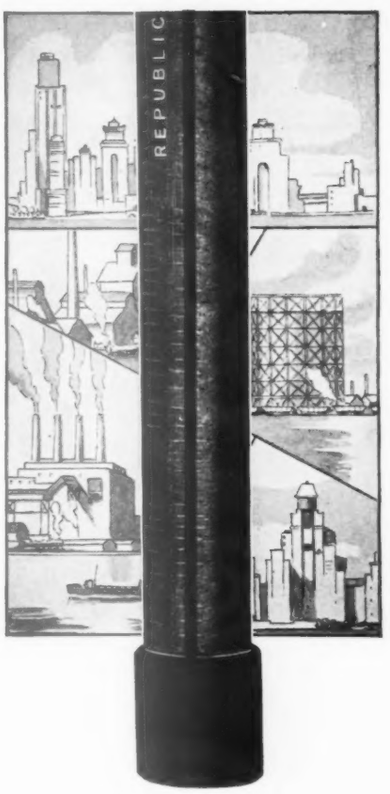


FOLLOW this prescription if you wish to avoid future worry about pipe. Make it your practice, particularly where service is severe, to specify Toncan Iron Pipe — the trouble-free pipe.

It begins to save trouble with its installation, for it is easy to thread or flange or bend. But the greatest benefit of Toncan Pipe can only be realized as the years go by without costly repairs and upkeep.

This alloy of copper, molybdenum and highly refined iron has an extraordinary resistance to the elements that relentlessly destroy most ferrous pipe materials. Toncan Iron is specifically manufactured to withstand the ravages of rust and corrosion. Use Toncan Iron Pipe for Permanence.

Send for the "Toncan Book." It contains full details of the story of Toncan Iron Pipe, its metallurgy, manufacture, tests and uses.



As protection to you we mark it BLUE.

REG.U.S.PAT.OFF.
TONCAN
COPPER
MO·LYB·DEN·UM
IRON PIPE

REPUBLIC STEEL CORPORATION

GENERAL OFFICES YOUNGSTOWN, OHIO

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HAZARD PREFORMED LAY-SET WIRE ROPE

WHEREVER SHUTDOWNS ARE COSTLY

Every operator knows the tremendous cost of shutdowns —both from the labor and production ends.

Service reports from hundreds of users prove conclusively that *preformed* wire rope gives 30% to 300% added service over ordinary wire rope. This means longer periods of uninterrupted digging.

More and more operators are turning to Lay-Set *Preformed* Wire Rope for enduring service. And once a user, always a user—and a booster. Profit by the experience of others and specify Lay-Set for your next line.

Send For The Hazard "Book of Facts"

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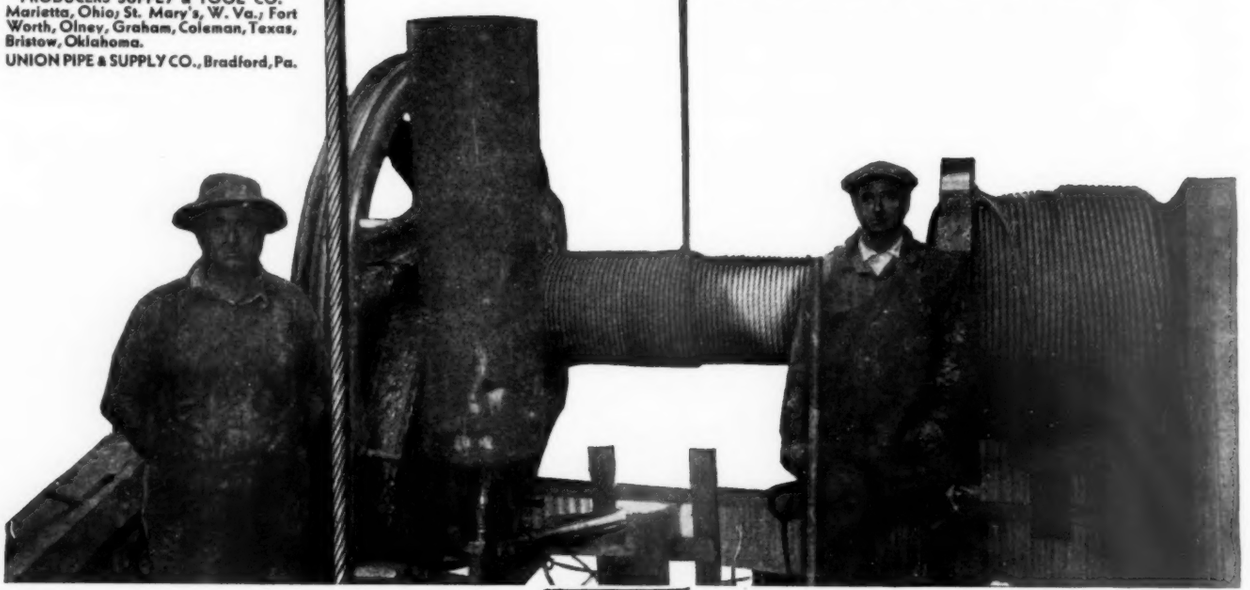
PRODUCERS SUPPLY & TOOL CO. Marietta, Ohio; St. Mary's, W. Va.; Fort Worth, Olney, Graham, Coleman, Texas, Bristow, Oklahoma.

UNION PIPE & SUPPLY CO., Bradford, Pa.



HAZARD WIRE ROPE COMPANY

WILKES-BARRE PENNSYLVANIA

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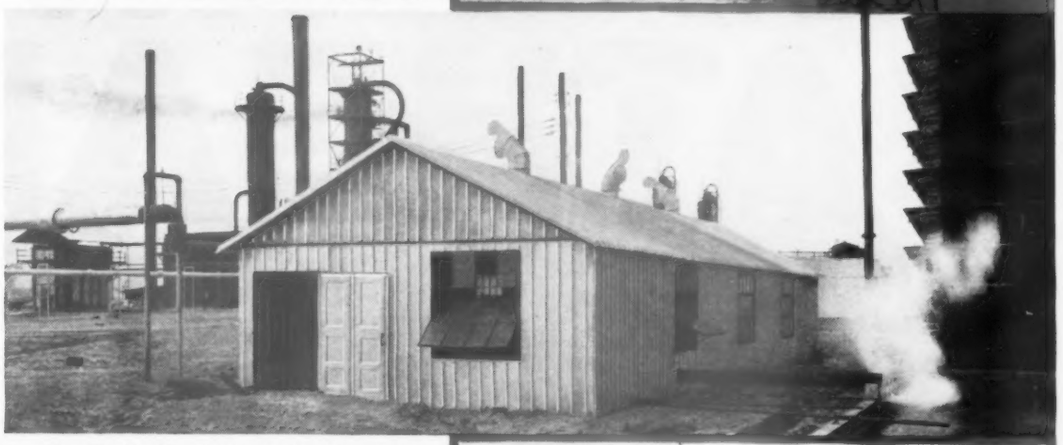
New York Pittsburgh Chicago Denver Los Angeles San Francisco Birmingham Philadelphia Tacoma

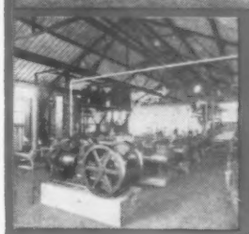
MADE ENTIRELY OF STEEL

BUTLER



READY-MADE STEEL BUILDINGS

Shelter Every Oil Field Activity



FIELD offices, dwellings, pump stations, power belt houses, flowing plants, refineries, material supply depots, warehouses, bunk and mess halls, garages . . . Butler Ready-Made Steel Buildings shelter practically every activity of the oil fields. And the reasons . . . fire-safeness to offset remoteness from fire protection, complete materials, ready made and readily transported to outpost operations, speed in erection by whatever sort of labor crew available, lower investment and maintenance charges, structural qualities which insure permanence, yet which permit of enlarging or taking down and re-erection. Send for the new booklet picturing many Butler installations. Call upon Butler engineers to supply full details and prices on any type structure in mind.

BUTLER MANUFACTURING COMPANY

1246 Eastern Avenue
Kansas City, Mo.

STEEL BUTLER PRODUCTS

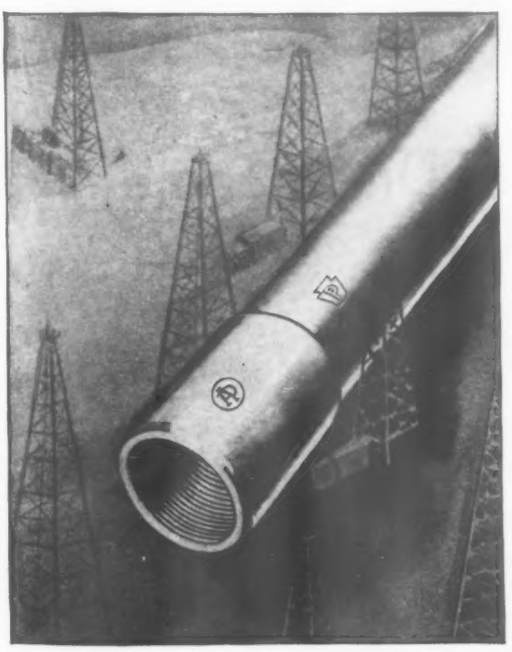
946 Sixth Ave., S. E.
Minneapolis, Minn.

HILL & FOSTER
AUTOMATIC
CATHEAD

Descriptive Bulletin
No. 15A
Sent on Request

THE
NATIONAL SUPPLY
COMPANIES

REHEATED FOR RESISTANCE



GREATER pressure and weight at greater depths necessitate the *certainty* of maximum resistance in casing. Nothing is left undone to assure this certainty in Pittsburgh Seamless High Tensile Casing. Pierced from solid billets of finest open hearth steel and rolled hot, it is an extremely tough, forge-finished product. But this is not enough for "Pittsburgh" standards. As a final assurance of well-balanced strength, it is reheated after rolling. This operation removes any possible disturbance of grain structure that may have been set up in previous operations and also restores ductility. Its resistance to deep well stresses thereby is made doubly sure.

Pittsburgh Seamless High Tensile Casing is obtainable in both 95,000 and 110,000 pounds, minimum tensile grades, made to A. P. I. specifications.

Pittsburgh Steel Products Co.

Division of Pittsburgh Steel Co.

Pittsburgh Chicago St. Louis
New York Detroit Tulsa Houston

Pittsburgh Seamless

HIGH TENSILE CASING

3039

MORE THAN 80% OF ALL THE GAS MANUFACTURED IN THE UNITED STATES IN 1929 COULD BE MEASURED BY

EMCO

Positive Displacement Gas Meters Built In That Year.

EMCO, the largest and most complete line of Meters and Regulators.

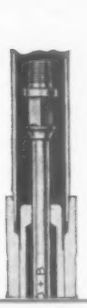
*PITTSBURGH EQUITABLE METER COMPANY

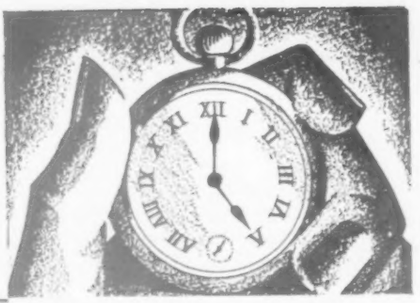
Main Office and Works—Pittsburgh, Pa.

New York City	Tulsa, Okla.	Columbia, S. C.	Seattle, Wash.	Kansas City, Mo.
Chicago, Ill.	Dallas, Texas	Salt Lake City	Houston, Texas	Los Angeles, Calif.

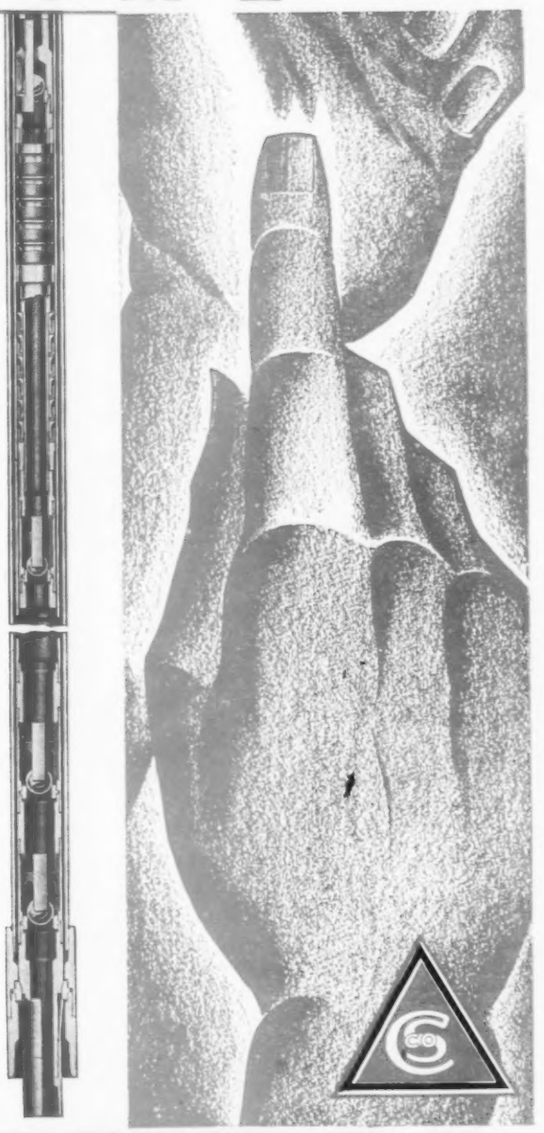
* An original George Westinghouse Enterprise

D+B
SIMPLEX
INSERT PUMPS





SAVE TIME



A time saver for the production crew as it is not necessary to pull the tubing when changing pumps or making repairs. When the last stand of rods is pulled, the entire working parts of the pump are on the derrick floor ready for inspection or replacements. When the rods are again run in, the working barrel automatically locks into its working position, and the total time required is only that of pulling and running in the sucker rod string.

"If Continental Sells It.... There is No Better

THE CONTINENTAL SUPPLY COMPANY
General Offices: ST. LOUIS

THE CONTINENTAL SUPPLY CO., LTD.
224 Traders Building, Calgary, Alberta, Canada

Export Offices:
CONTINENTAL EMSCO COMPANY, INC.
74 Trinity Place, New York
London Offices: 316-17 Dashwood House, Old Broad St., E.C. 2

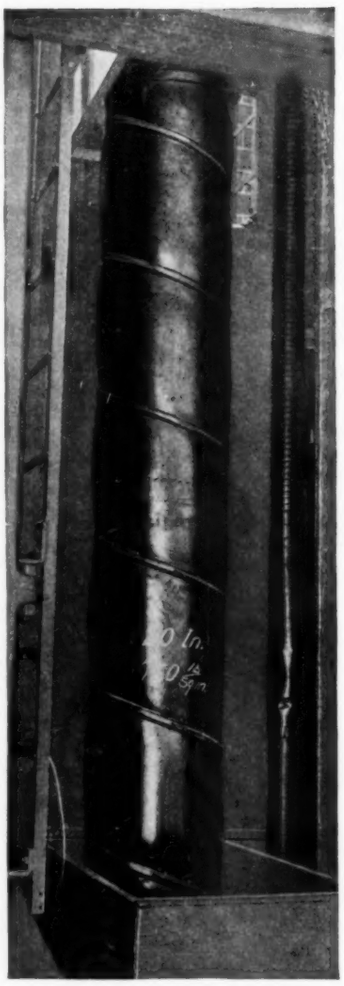
CONTINENTAL EMSCO S. A. R.
7, Strada Eminescu, Ploesti, Romania

J911

CONTINENTAL

LIGHT WEIGHT Naylor Pipe

Withstands High Pressures



20-inch Naylor Pipe in Testing Machine during Internal Hydrostatic Pressure Tests

No.2—Internal Hydrostatic Pressure Tests.

Every length of Naylor Pipe is tested to the pressures indicated in the following table:

Diameter of Pipe	Mill Test Lbs. per Sq. In.	Diameter of Pipe	Mill Test Lbs. per Sq. In.
6″	900	14″ O. D.	450
8″	800	16″ O. D.	400
10″	700	18″ O. D.	350
12″	500	20″ O. D.	325

Extensive tests recently made by Professor M. L. Enger and W. M. Lansford of the Materials Testing Laboratory of the University of Illinois, bear out the soundness of this practice.

In the course of these tests it was shown that the bursting strength of Naylor Pipe computed in accordance with the formula $p = \frac{2ts}{d}$ was less than the bursting strength found by experiment. This means that the Naylor Structure is definitely responsible for an increase in resistance to internal hydrostatic pressure.

Catalog 30-2 gives you complete engineering and metallurgical data.

NAYLOR PIPE COMPANY, Main Office & Plant, 1230 E. 92nd St., CHICAGO

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TONCAN COPPER

Naylor Pipe

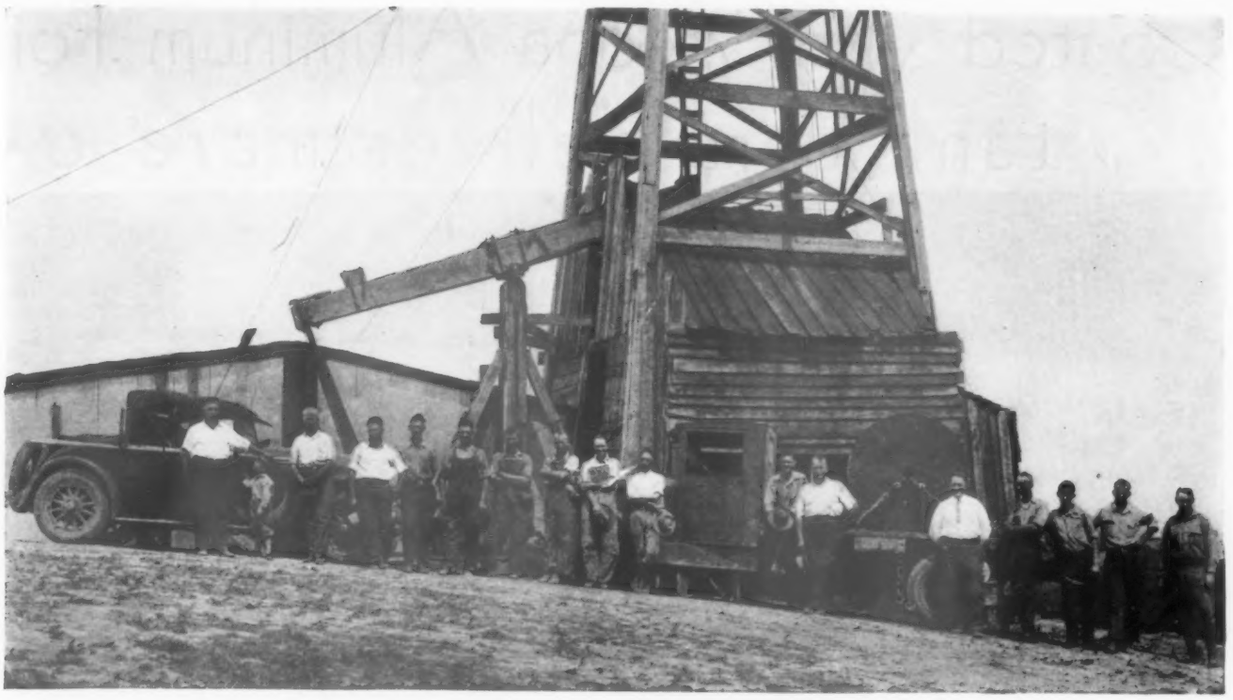
Maximum Structural Strength Mo-lyb-den-um With Minimum Weight

IRON

Standardized Naylor Pipe is made in sizes 6″ to 12″ I. D. and 14″ to 20″ O. D. in any uniform length desired up to 40'0″. Ends made to wrought pipe standards for all types of coupling.

Toncan Copper Molybdenum Iron possesses a superior corrosion resistance, making it the favored pipe material.

Where corrosion is not a problem, Naylor Pipe can be furnished in steel.



The men in this picture, left to right, are:

J. K. Potts of the Ward Drilling Co. and his grandson Dickey Stout.

Ed Willet, shooter for the Agnew Torpedo Co.

M. G. Jameson, Dist. Sup't for the East Ohio Producing and Refining Co.

S. E. Swallow, M. C. Cox, J. H. Dawson, R. G. Hostetter, and D. E. Cox rig building crew of the rig contracting firm of Swallow and Swallow.

H. A. Sater, scout of the Ohio Fuel Gas Co.

C. P. Trowbridge in charge of tools for the Gordon Oil Co.

Adam Rohrbaugh who completed this well and is one of the oldest active drillers in the east, having begun drilling at Callery Junction, Pennsylvania, in 1888.

J. W. Blacksten, President and General Manager for the Capitol Drilling Co.

G. L. DeVore and J. F. Grey, cleaning out men.

F. R. Shumaker in charge of the trucking for the Capitol Drilling Co.

L. A. Liddle owner of the land on which this well was drilled.

UNION has lots of friends at Cambridge, Ohio

THE above photograph, taken at Liddle No. 2 in the Cambridge territory, is typical of scenes in this district because it shows a UNION Drilling Line which has completed this well and is ready for the next location.

UNION Wire Lines make friends everywhere by being of staunch character - - by serving with emminent satisfaction under all conditions.

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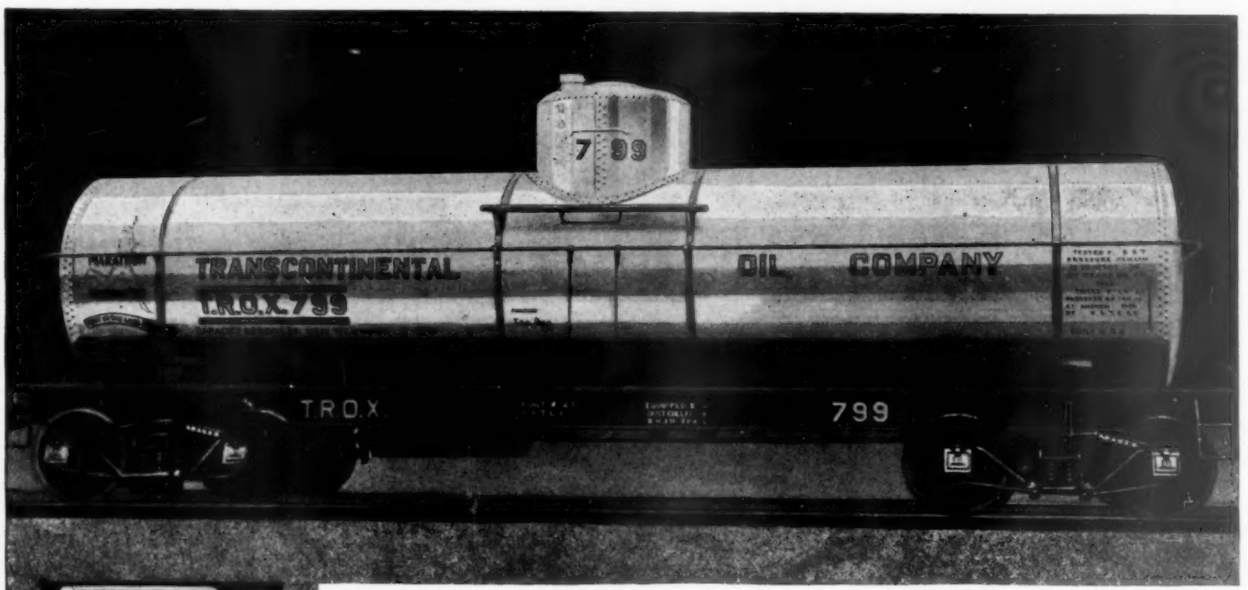
Oil Country Sales and Export Offices: 338 Kennedy Bldg., Tulsa
Branch Office and Warehouse: Portland, Ore.
Factory: 21st and Manchester, Kansas City, Mo.

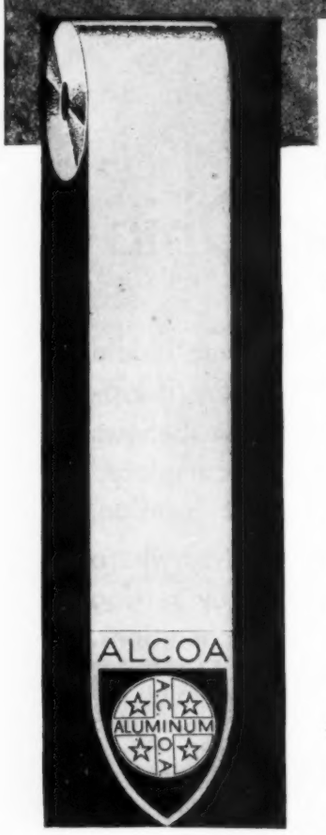
JARECKI MANUFACTURING COMPANY
Mid-Continent and Eastern Oil Field Distributors - - Stocks at All Stores

TRADE MARK

UNION WIRE LINES

Coated with Alcoa Aluminum Foil . . . tank cars deliver more oil





Every gallon of oil that evaporates from tank cars and tanks is money thrown away.

More oil stays in the cars and tanks if you coat them with Alcoa Aluminum Foil. This new method of surface protection provides a coating that reflects heat—keeps tanks cooler—keeps the oil inside. Actual tests have shown surprising reductions in evaporation losses.

Alcoa Aluminum Foil is easily applied, it goes on like wall paper. It can be put on by crews with no previous experience in foiling. It provides a long-lived protective coating, that will prevent the penetration of moisture and the formation of rust on the iron and steel beneath.

On pipe lines, Alcoa Aluminum Foil is checking the effects of soil stress. It stays on the pipe and protects the coating, even against soil movements.

Our nearest office will gladly give you full information on how to apply foil most effectively. ALUMINUM COMPANY *of* AMERICA; 2419 Oliver Building, PITTSBURGH, PENNSYLVANIA.

ALCOA ALUMINUM
ROLLED INTO FOIL

The Business Lesson of 1930 Has Been an Outstanding Principle of Development With the Hercules Supply Company

You can get what you want from the Hercules Supply Company and you can get it quick. Stores at the most strategic locations in Texas and New Mexico.

The outstanding lesson taught by the severe decline in business that set in late in 1929 and existed through most of 1930 is that it pays to keep overhead down and individual service up.

Throughout its ten years of progress, this has been a cardinal principle of development with the Hercules Supply Company.

The aim has been to have fully stocked stores at only convenient and active locations and to cut out all deadwood in stock and locations. Active, alert, with all sails trimmed and decks stripped for action, this company has been able to render a quick service on quality lines with the minimum red tape.

HERCULES SUPPLY COMPANY

J·T·McCARTHY JR

EVERYTHING FOR OIL WELLS

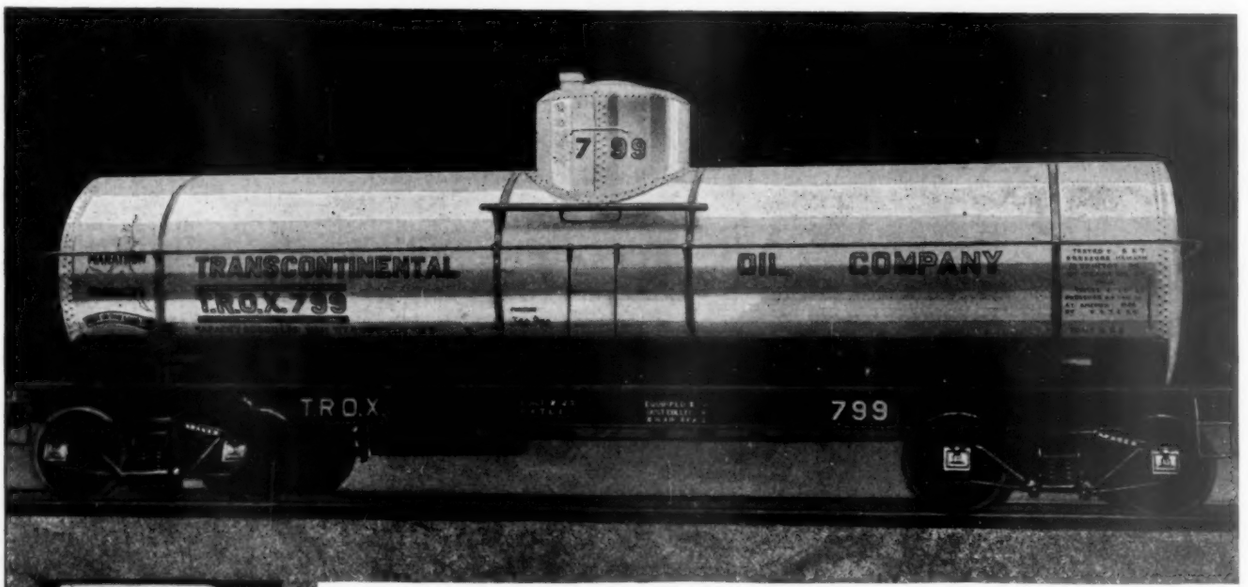
Spang Jars
Worthington Pumps
B-J Elevators and Tongs
Regan Control Heads, etc.
Standard Seamless and Etna Pipe
Cameron Blow-Out Preventers, etc.
Fishing Tools, both Rotary and Cable
American Steel & Wire Co., Wire Lines
"Lucey," "Dreadnaught," "Regan" Rotary Tools

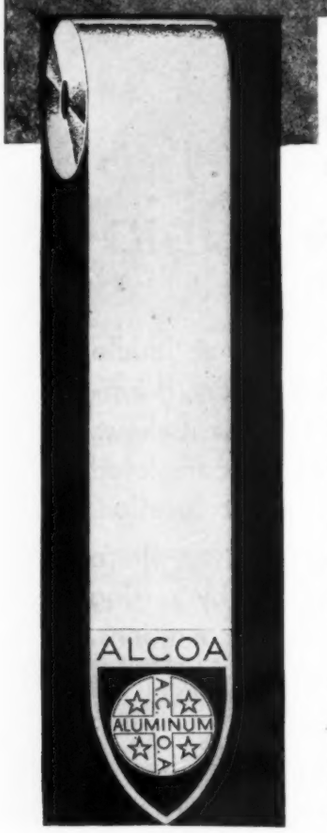
Gray Tools
Climax Engines
Baker Oil Tool Products
Walworth Valves, Fittings
Penberthy and Chicago Injectors
American Bull Ropes and Cat Lines
Oil W. Imp. Control and Oil Savers
Guiberson Tubing Catchers, Swabs, etc.
Hughes Rock Bits, Gate Valves, Core Barrels

General Office: FORT WORTH

STORES: Pampa, Texas—Pettus, Texas—Refugio, Texas—Van, Texas, Wink (Pyote), Texas—Vernon, Texas—Hobbs, New Mexico.

Coated with Alcoa Aluminum Foil . . . tank cars deliver more oil





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Baker Oil Tool Products
Walworth Valves, Fittings
Penberthy and Chicago Injectors
American Bull Ropes and Cat Lines
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General Office: FORT WORTH

STORES: Pampa, Texas—Pettus, Texas—Refugio, Texas—Van, Texas, Wink (Pyote), Texas—Vernon, Texas—Hobbs, New Mexico.

Make A Few Comparisons ▼ ▼

The Modern Truck vs. the Ox Cart

Transcontinental Express vs. the Covered Wagon

The Air Mail vs. the Pony Express

Baker Cement Equipment vs. Equipment Containing Any Metal Parts

It is a far cry back to the days of the Ox Cart, the Covered Wagon, and the Pony Express. "The good old days" they would be called, perhaps, by those who regret to see the passing of things with which they have been familiar.

Cast-iron equipment for Floating, Guiding, and Cementing is just as much a relic of those "good old days" as are the other things mentioned.

The history of all progress is change—improvement—and along with the modern truck, the transcontinental express, and the air mail, has come Baker Cement Equipment. It is a symbol of improvements in methods in the oil industry.

That Baker Cement Equipment and the great improvement in method it makes possible is appreciated by the oil industry is shown by the fact that in approximately 80% of the world's wells it is used, and re-ordered.

Equipment containing metal plugs, guides and valves for floating, guiding, and cementing was all right, of course, as long as there wasn't anything better. *But the trouble caused by the fragments of metal left in the hole was always a source of lost tempers and footage.*

With the advent of Baker Cement Equipment, metal equipment was ready for the museum, along with the ox cart and other antiquated devices.

The entire inner construction of all Baker Cement Floating, Guiding, and Cementing Equipment is NON-METALLIC, and it permanently eliminates cast iron trouble and delays.

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NOVEMBER 28, 1930

Edited Weekly at Houston, Texas

SPENCER W. ROBINSON, EDITOR

TABLE OF CONTENTS

Special Features

Highlights ... 23

Mexico's Future Oil Possibilities ... 26
By Jack Logan

Development Welcomed by Mexican Officials ... 27

The Mechanics of Oil Well Pumping ... 28
By H. E. Dralle

Engineering and Economic Aspects of Unit Operation ... 32
By T. E. Swigart

Natural Gas Industry Forging Steadily Ahead ... 46
By H. J. Struth

Regular Departments

Advertisers' Index ... 122

Markets-Production-Crude Prices ... 51

United States Production Estimates ... 54

Crude Oil Price Quotations ... 57

Personal Mention ... 64

Completions for Past Week in All U. S. Fields ... 90

Permits for New Wells ... 94

Wildcat Drilling Reports from All Important Areas ... 95

News from California Fields ... 69

Oklahoma-Kansas Field Notes ... 75

Gulf Coast and South Texas Fields ... 83

North and West Texas Field Notes ... 77

New Mexico and Rocky Mountain Area ... 80

Louisiana-Arkansas Development Notes ... 85

New Equipment, Catalogs, Bulletins, Books ... 115

Manufacturer and Supply Dealer Notes ... 118

Squeaks from the Bull Wheel ... 120

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Drop Forged Sidebar SS-124—A.P.I. 4

HYPER ROTARY CHAIN

INTO this Drop Forged Sidebar Rotary Chain has been built not only an ultimate strength of 180,000 lbs. and an elastic limit of 160,000 lbs., but extra service values in precision, workmanship, toughness, hardness and finish, giving results never attained before in any chain of similar design.

It is daily proving its superior quality in deep well drilling.

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OIL WELL SUPPLY CO.

OIL CITY, PA., U. S. A.

NEW YORK LOS ANGELES SAN FRANCISCO
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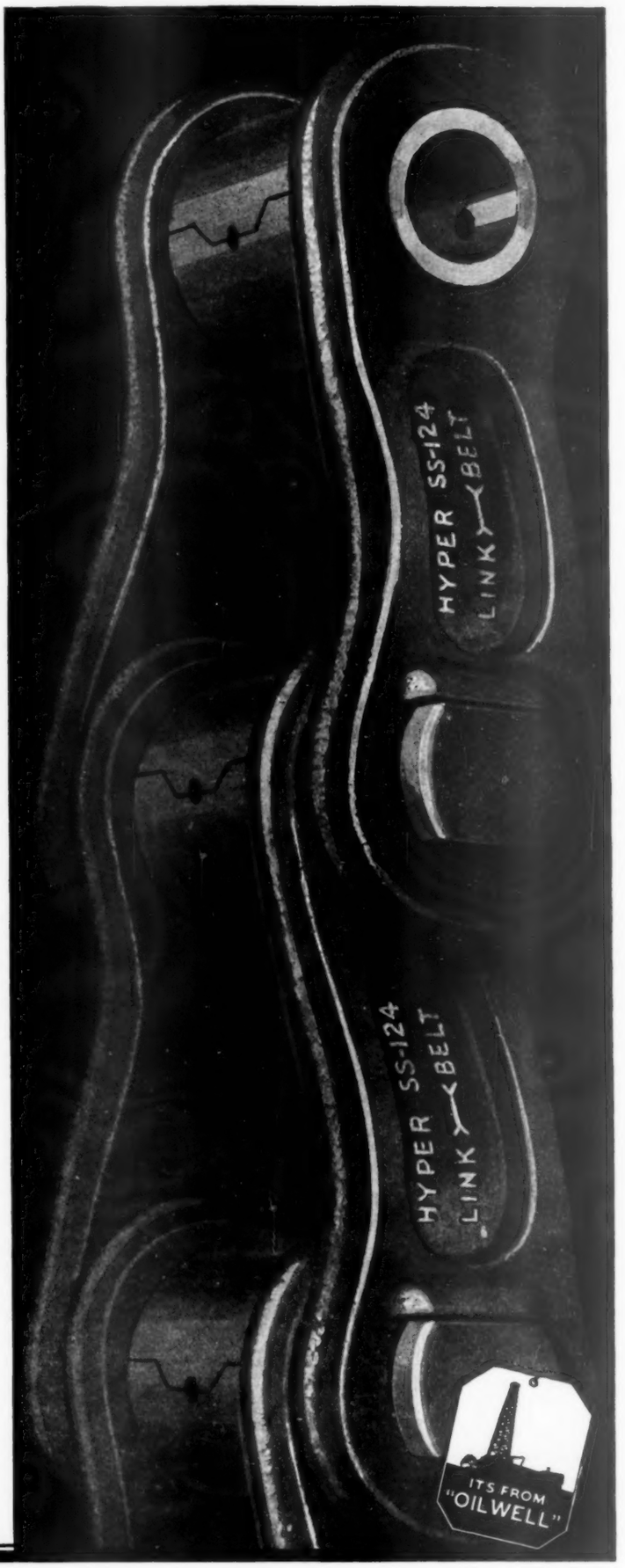


THE OIL WEEKLY

VOLUME 59, NO. 11 NOVEMBER 28, 1930

HIGHLIGHTS

Commission Order Limits Texas Output to 680,238 Barrels

AUSTIN, Texas.—Effective November 25, Texas crude oil production will be limited to 680,238 barrels daily, following out in toto the recommendations made by the Central Proration Committee of Texas. An order to all operators of the State to this effect was issued by Chairman Pat M. Neff, of the Texas Railroad Commission on Tuesday morning, November 25. Production limits for the various producing areas of Texas have been fixed in accordance with details presented on page 61 of this issue.

The Railroad Commission also granted the request of Pure Oil Company whereby production of the Van area will be increased to 35,000 barrels on December 15; to 40,000 barrels on January 1, 1931; to 45,000 barrels on January 15 and to 50,000 barrels on and after February 15, 1931. (See page 79.)

The commission also ordered that pipe lines will be privileged to exchange facilities and also oil takings in order to effect necessary equalities among the various producers. All marginal wells will be limited to 12 barrels of production daily.

Oklahoma Report Shows Crude Price Average $1.367

OKLAHOMA CITY.—Compilation of tax figures upon which is based the Oklahoma Quarterly Production Report* reveals that the State of Oklahoma has been hit by low prices and restricted production in the oil industry to the extent that collections on the three per cent gross production tax is $800,000 less for the quarter ending September 30, 1930, than for the same period last year. Gross production of oil in July, August and September of this year was approximately 52,630,000 barrels, last year, the same period, 66,396,000 barrels.

Smaller producers, including those who produced up to 500,000 barrels during the three months, produced 54.4 per cent of the total, while the ten leading companies* show returns representing 36.9 per cent of the total. Between 500,000 and 800,000 barrels were seven companies which produced 8.6 per cent of the total.

Sinclair Oil & Gas Company is revealed as the largest producer in Oklahoma, reporting 3,462,849 barrels, while Indian Territory Illuminating Oil Company was second with 3,388,611 barrels.

The report indicates that the average price of crude produced in Oklahoma during the quarter was $1.367.

*See page 108 this issue.

Prairie Withdraws as Purchaser In Texas Panhandle

FORT WORTH, Texas.—More than 100 operators and companies now selling crude production to Prairie Oil & Gas Company in the Panhandle and sections of Central West Texas will be deprived of a market outlet shortly as result of the above major purchaser having ordered another sharp reduction in its crude takings. The order calls for a discontinuance of all purchases in the Texas Panhandle November 27, while the other areas involved will be cut off about December 1. Loss of a crude selling contract held by Prairie Oil & Gas Company with Standard Oil Company of New Jersey brought on the company's withdrawal from the Panhandle. The reduction in purchases and complete severence from some areas in Central West Texas is believed to be due to the fact that Vacuum Oil Company will switch to Magnolia Petroleum Company for its supply of Ranger bright stock material before the close of 1930.

Termination of Vacuum Oil Company's purchases of Ranger quality crude from Prairie Oil & Gas Company can be traced to the impending merger of the former with Standard Oil Company of New York. Terms of this proposed merger were worked out earlier in the year, and actual consummation of the deal rests with the approval of the government.

Portions of Jack, Young and Brown Counties are involved in Prairie Oil & Gas Company's proposed reduction of crude purchases. The company has taken preliminary steps to break away from about 2800 barrels of daily purchases in the Bryson district, Jack County, and will also withdraw as a buyer from the Kisinger pool, Young Coun-

ty, where about 900 barrels has been accepted for purchase. Brown County is reported to be eliminated as a source of crude purchases also.

Connections to be discarded by Prairie Oil & Gas Company in the above counties will obtain relief in some instances from other majors, as The Texas Company is known to be contemplating a hook-up with a number of the properties. Magnolia Petroleum Company is expected to make some gains in its purchases as result of having been assured of Vacuum Oil Company's future business. Marathon Oil Company (Ohio Oil Company) is another likely source of relief, as this company has acquired a large group of bulk and retail stations within trucking radius of its refinery at Fort Worth, and has direct pipe line connections with the principal oil areas in Central West Texas.

Approximately 115 leases in the four principal oil producing counties in the Texas Panhandle will lose, or be partially deprived of a crude market outlet in the event Prairie Oil & Gas Company carries out its announced intentions of discontinuing all crude purchases in the district effective 7 a.m., November 27, 1930. This company has been one of the largest buyers in the district, having nominated 13,000 barrels daily as its current requirements, including about 4000 barrels daily of controlled oil. Indications are that other purchasers will not increase their takings to offset the slump in market outlet to follow, and it is quite likely that production allowance in the district will be cut from its present quota of 70,000 barrels daily to between 50,000 and 60,000 barrels daily.

Withdrawal of Prairie Oil & Gas Company as a buyer in the Panhandle was necessitated by the loss of its marketing contract with Standard Oil Company of New Jersey, which has been accepting for purchase all oil handled by the former concern from the Panhandle. Prairie Pipe Line Company gathered and transported the crude via an eight-inch carrier to a point near Ringling, Oklahoma, where deliveries were made to Oklahoma Pipe Line Company, a Standard of New Jersey subsidiary. Prairie Oil & Gas Company has made unsuccessful efforts in the past to broaden its re-sale market on Panhandle crude, even when attractive price advantages existed over the general run of Mid-Continent oils.

Prairie Oil & Gas Company will continue to take its own production in the Panhandle, but same will be continued on a proration basis in harmony with restrictions followed by adjoining lease owners. The company will also discontinue a price posting for the district, according to the official order issued last week. Except for common carrier business that may develop from the decreased market outlet available for the district, Prairie Pipe Line Company's crude movement from the Panhandle will be restricted to daily production of Prairie Oil & Gas Company.

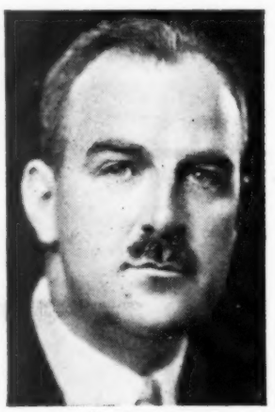
Humble Declares Extra 50 Cents With Quarterly Dividend

HOUSTON, Texas.—At a meeting of the board of directors of Humble Oil & Refining Company, November 24, the regular quarterly dividend of 50 cents a share was voted, together with an extra dividend of 50 cents a share, payable to stockholders on January 1, 1931, on shares of record on December 1, 1930. Last year, when net earnings of the company reached the record-breaking total of $32,535,080, compared with $19,277,145 in 1929, opinion prevailed that an extra dividend would be declared. The present divided action is believed to have been promoted by the accumulation of surplus from earnings of last year and former years rather than on current or prospective earnings.

Dutch Shell Director Analyses Producers' Situation

NEW YORK.—An analysis of the present plight of the petroleum industry and suggested corrective steps, are contained in a statement issued November 21, by F. Godber, director, Royal Dutch Shell Group. He said in part:

"A good deal has been said recently about the difficulties of the oil industry and it becomes apparent that a great many of those interested are throwing up their hands in despair as a result of their belief that the ills of the industry are almost too serious to cure. Ills exist in abundance but undoubtedly a remedy can be found and is available if the industry would only meet its problems along broad lines."



F. GODBER
..."producer is entitled to fair return."

Mr. Godber then discusses the recent collapse of the price structure of the domestic markets east of the Rockies, the abandonment of export prices, and points out that thus far producers have borne their full share of the sacrifices which have been deemed necessary to rationalize the industry. Going on, he points out that no industry can prosper or progress unless the price of the commodity which it produces, is stabilized along reasonably steady lines.

Should conservation be abandoned, he says, the inevitable result would be the complete wrecking of the industry. Therefore, he says, "one must favor an increase in crude oil prices, believing that so long as crude is produced only within the limits of the demand, and the producers have indicated their willingness to keep their operations within these limits, that there is every reason why crude prices should be improved and the producer allowed to earn a fair return on his investment."

The trouble is, he points out, the industry cannot, or will not find common ground upon which to tackle its problems. Rather than cut the price here and there to meet local conditions, an improved condition would result if production would be kept within demands, and gas waste would be reduced materially. If gas wastage were eliminated altogether, he said, reduction of production of oil would be automatic. Conservation has been successful, he pointed out, in Roumania, where Royal Dutch Shell Group took the initiative in a scheme of conservation.

Another important fact, he said, is the control of drilling. "Here again," he said, "the producer, frequently against his will, is forced into drilling many more wells than the pro rata allowance for the field's necessities. Oklahoma City is a striking example of it. . . . The unification of royalties upon new structures is just as important as that of leases and although it is a much more difficult and complicated problem, the industry would be well advised to attempt some such plan whenever a wildcat well is contemplated."

Conservation is here to stay, he said, for production could be greatly accelerated throughout the remaining producing countries of the world as well as in the United States. As a result much care must be exercised so that the conservation movement will not be endangered.

(Continued on page 88)

Washing In Under Pressure Successful *in* Oklahoma

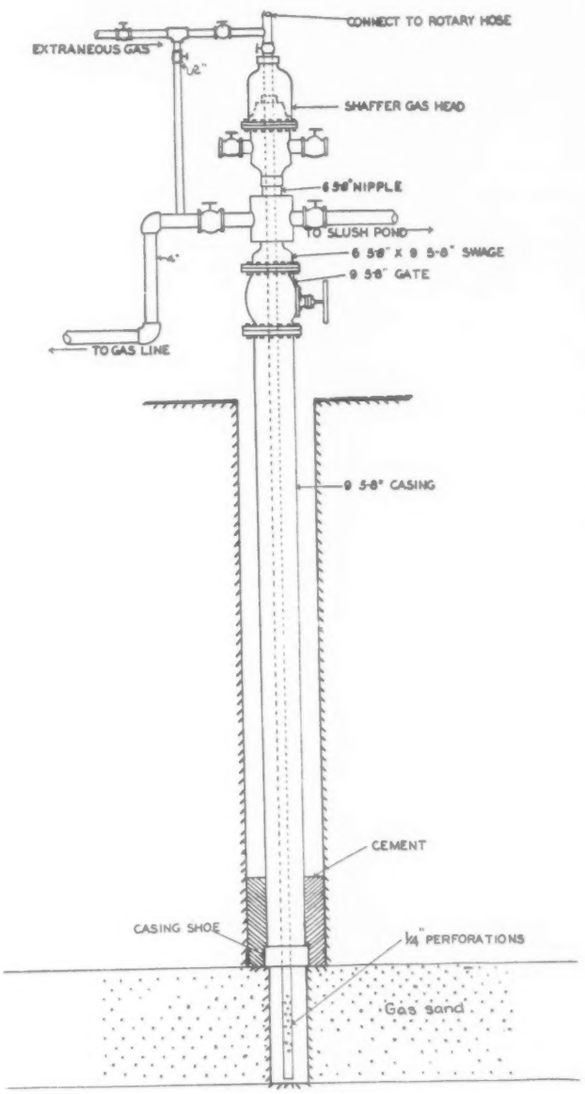
By FLOYD SWINDELL
Staff Representative

WITHIN the past six months operators in the Oklahoma City pool have completed a large number of wells by the washing-in method, a procedure wherein the mud fluid is displaced by a column of water, thereby washing sand and other cuttings from the hole before the well is allowed to flow.

This has eliminated, to a large extent, the hazard of completion through elimination of the cutting action of sand driven at high velocities. However, it is usually necessary to bail part of the water from the hole in order to induce flow and it is during this period of bailing that the principal hazard exists. The bailer may be caught in an unexpected flow and blown from the hole, damaging connections so that the well can not be shut in on the master gates. Damage may be done to adjoining properties through spraying mud and water before the gates can be closed.

Cities Service Gas Company introduced a variation of the method on October 9 when its Freyler 1, SWc NE NE, Section 4-20n-1w, Noble County, was completed as a 31,000,000-foot gasser by washing in with water and gas. This eliminated any bailing and made it possible to maintain a back pressure on the sand at all times while the well was being completed.

The well was drilled with rotary tools and 9⅝-inch casing set on top of the sand at 3449 feet. The plug was drilled in the usual manner and a heavy mud maintained until the sand had been drilled to 3467 feet. Directly above the derrick floor, a 9⅝-inch high pressure master gate was set and the Christmas tree built up as shown in the accompanying sketch. Two-inch tubing was run to bottom and packed off in the Shaffer gas head. The rotary hose was connected to the tubing and water pumped in until all mud had been discharged to the slush pits.



Procedure from this point depends upon the depth of the hole and the rock pressure. In the case of the Freyler well, the rock pressure was not great enough to overcome the hydrostatic head and high pressure gas was introduced extraneously through the tubing. A two-foot tubing nipple, perforated with one-fourth-inch holes, was set in the string two feet off bottom. The discharge of high pressure gas at the bottom of the hole decreased the pressure on the sand by aerating the water column, and permitted the well to flow under its own pressure. All loose sand and other cuttings had been washed out by the water, and the use of gas eliminated bailing and enabled the operators to maintain complete control at all times.

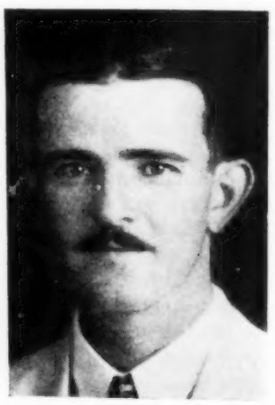
When only small quantities of gas are required from the well it is produced through the tubing and the two-inch top connection. This also gives a jetting action which would remove any water which might have collected during a shut-in period. Should larger amounts of gas be desired, the well is produced through the casing and a four-inch connection out of the T.

In pulling tubing, all gates and valves are opened to relieve the pressure and a method,* devised by Southern States, Incorporated, used in removal of the string. Cities Service Companies have used this method for tubing about 15 wells in the Mid-Continent but so far as is known the completion of the Freyler well was the first trial at washing in with water and gas outside of Louisiana where the method originated.

*H. C. Ottis, "Methods of Tubing High-Pressure Wells," Technical Pub. No. 253, The American Institute of Mining and Metallurgical Engineers.

Mexico's Future Petroleum Possibilities

By JACK LOGAN
Staff Representative



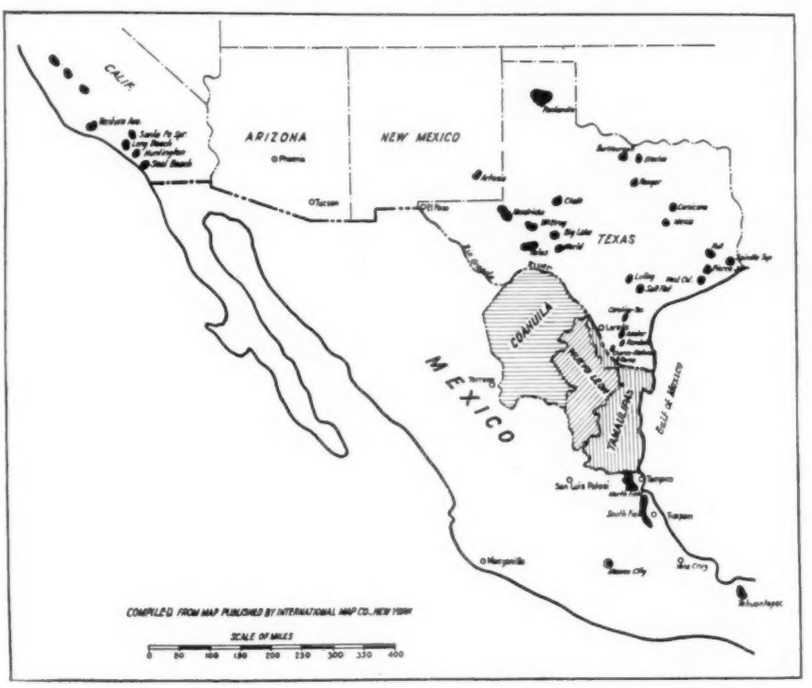
JACK LOGAN
...has recently made an extensive trip through Northern Mexico to secure material for a series of articles on that section's pending development for oil.

MONTERREY, Nuevo Leon, Mexico.—Searching back into the history of petroleum in Old Mexico, one uncovers an amazing story, epic in sweep, in which there is gripping drama, swift moving romance, and action on a grand scale. Colorful Tampico, with its tense, dramatic atmophere, commands a central position in the scene of action, and in the story one learns of the famous South Fields district advertised in Wall Street as the "Golden Lane" of Mexico; of such details as prolific "Tamasopa" limestone; and of marvelous "gushers," breaking world records by flowing oil at the rate of 100,000 barrels daily to begin with, and by maintaining enormous output year after year, various individual wells piling up production records as impressive as those of entire market-breaking fields in other countries.

In the South Fields of the Tampico-Tuxpam embayment, for instance, one well alone, the Potrero del Llano Number 4 of Compania Mexicana de Petroleo "El Aguila," S. A. (Mexican Eagle Oil Company, Ltd.), completed December 26, 1910, in Lower Cretaceous lime at about 2000 feet, with estimated initial output of 100,000 barrels daily, produced over 100,000,000 barrels of oil before it began showing water 10 years ago; and with more than 115,000,000 barrels of marketed production already to its credit, it is still reported to be yielding 400 barrels of 21-22 gravity pipe line oil daily. (When water appears in the well the flow is decreased to such extent as to exclude the water). The above figure of 115,000,000 barrels, it will be noted, represents only marketed production. It does not include some millions of barrels which were lost. The well was fired by lightning August 13, 1914, and the fire was not extinguished until March 17, 1915; and there was another period of lost production when the well ran wild for three months in 1915.

This one well, considering only the marketed production, has produced more oil than the hundreds of prolific producers drilled at Spindle Top through a period of 30 years; more than Humble dome, Corsicana-Powell, or the Yates field; a greater amount of oil than Luling, Salt Flat, Darst Creek and the Laredo district combined; and nearly as much as either Burkburnett or the Hendrick field.

The first great "gusher" in Mexico had been Huasteca Petroleum Company's Juan Casiano Number 7, which was completed in September, 1910. The initial production was around 100,000 barrels daily. The owners marketed in excess of 80,000,000 barrels of oil from this well. Another famous "gusher" in the South Fields was Huasteca Petroleum Company's Cerro Azul (Blue Hill) Number 4, from which was marketed more than 75,000,000 barrels of oil. It was completed at 1751 feet, and it is distinguished as one of the shallowest major producers ever drilled in the republic, as well as one of the greatest 24-hour potential producers ever completed in the world.



In the Panuca district, west of Tampico, the so-called "Northern" oil fields of Mexico, there were also some remarkable producers. One well there, the Zurita Number 3, produced 21,464,170 barrels of 11-12 gravity oil from January, 1914 to July, 1924.

From the opening of the present century to now the total oil production in Mexico has exceeded 1,500,000,000 barrels. All that crude oil has been from fields around Tam-

(*Continued on page 88*)

Search for Oil and Gas in Prospective Areas of Nuevo Leon—Coahuila and Tamaulipas Welcomed by State Officials

—An Interview With

JOSE BENITEZ

Governor of Nuevo Leon

MONTERREY, Nuevo Leon, Mexico.—Governor Jose Benitez of the State of Nuevo Leon, young, energetic and affable, typifies the spirit of progressiveness which one finds today in Northern Mexico and particularly in Monterrey and Nuevo Leon.

Eager to further the welfare of the state of which he is the chief executive, he welcomes the increased oil and gas development work which apparently is in prospect for Northern Mexico during the immediate future, as will be pointed out in a forthcoming series of articles in THE OIL WEEKLY; and such development work will carry with it the governor's felicitations and cooperation where possible.

The petroleum law of Mexico provides that the federal government shall participate in profits from oil and gas in the form of a production tax, and it provides further that the individual states producing the petroleum shall participate in that production tax to the extent of 10 per cent. Questioned as to what use such revenue would be directed in the event of development of oil or gas in Nuevo Leon, Governor Benitez replied that it would be used mainly for irrigation projects and for building roads. Consequently, part of the tax would come directly back to the petroleum industry in the form of better roads, which would not only afford better transportation for the companies themselves, but which would also broaden the market for petroleum by increasing its use by the people of the state. The irrigation projects, likewise, would furnish potential markets for petroleum products.

JOSE BENITEZ

It was the pleasure of this staff writer for THE OIL WEEKLY to obtain an interview with Governor Benitez several weeks ago at his offices in the state capitol in Monterrey, and the governor contributed personally in large degree to realization of the desire which he expressed at the beginning of the interview when he said: "I hope that you will carry back with you a favorable impression of Nuevo Leon and of Monterrey."

He spoke in English with noteworthy readiness and ease, and his attitude was one of hospitality and cordiality. In reply he was given the assurance that the state and the city had already gained a high place in the writer's regard.

Continuing to take the lead in the conversation, and rapidly gaining the highest esteem of the interviewer, he inquired: "Have you visited some of our factories and industrial plants and seen the places of interest here in our city?" Upon being informed that only a limited amount of visiting had yet been done, he named over with wholesome pride some of the industrial plants and show places which might prove of particular interest. So favorable an impression did the city actually make upon the writer, in fact, that a special article has been prepared on it and some of its personages, to be used in a forthcoming issue as a complete installment in the above mentioned series of articles on Northern Mexico.

Comment here will be limited only to the statement of the fact that Monterrey during recent years has assumed a position as one of the most important commercial and industrial centers in Mexico. Credited with approximately 135,000 population and having nearly 150 major industries within and adjacent to it, including numerous manufacturing plants and iron and steel industries, the city is known as "the Pittsburgh of Mexico."

"Monterrey and the towns surrounding it," Governor Benitez pointed out, "will furnish good markets for oil or gas production which may be developed in fields of Nuevo Leon."

"Natural gas has already found a ready market here in Monterrey among domestic as well as industrial consumers," he asserted, referring to the 143-mile 12-inch trunk line of the South Texas Gas Company and Compania Mexicana de Gas (United Gas Company affiliations) conveying gas from the Jennings field, Zapata County, Texas. Commenting further on that pipe line system, the governor stated that the natural gas has materially benefitted and stimulated industry in Monterrey through providing lowered fuel costs. From the standpoint of companies which might develop gas production in Nuevo Leon or Tamaulipas, the above gas line offers encouragement, for the owners of the system have agreed to take their supply from Mexican fields which might be developed, where practical.

Regarding the subject of highway and road building, Governor Benitez said that the good roads which have been built during the past several years have already served to make Monterrey a more important commercial and industrial center. The 150-mile paved highway between Monterrey and Laredo was officially opened several months ago and is bringing many visitors from the United States; and it represents only one of the good roads leading out of Monterrey, others leading out toward the east, south and west.

The Mechanics of Oil Well Pumping

By H. E. DRALLE
Westinghouse Electric and Manufacturing Company

THIS paper, which was received with much interest when read before the American Petroleum Institute at Chicago on November 12, points out that stressing of the mechanical equipment on a pumping oil well is directly dependent upon the type of prime mover and upon the type, location and amount of counterbalance. An appreciation of these relationships is essential if most economical pumping installations are to be made.

The few simple equations and the detailed oscillographic test data and results presented bring out the significance of these theoretical relations, and furnish a basis for analytical calculations of stresses and power requirements of oil well pumping equipment.

The test data submitted comprise records taken with telemeters, tachometers, ammeters, voltmeters, and timing devices so connected to an oscillograph that instantaneous values of six variables were simultaneously recorded under various conditions of well operation. A detailed analysis of this data has resulted in the following general and definite conclusionss

1. Variable well reactions impose upon surface equipment heavy stresses that are magnified by prime movers with heavy inertias and reduced with prime movers of small inertias.

2. A rotating type counterbalance on the crank shaft gives maximum beneficial effect.

3. The variable torque of single cylinder gas engines superimposes high peak stresses on surface equipment.

4. Gas engine driven wells are most easily counterbalanced by the analytical method.

5. Torque variations on crank shaft with change in counterbalance are slight with band wheel drive, but the motor torque variations are definite.

6. In gear drives the best counterbalance indicates best behavior throughout the whole drive.

7. On electrically operated wells the best criterion of counterbalance is equal current peaks for the well and the counterbalance.

8. Motor wells are counterbalanced best by means of graphic ammeter, wattmeter, or tachometer.

9. Counterbalance (on geared drive) giving minimum motor heating produces best operating condition on all surface equipment.

10. Extreme overloads on motors result in higher power bills.

11. Rod stress is an insensitive indication of counterbalance.

12. Difference in time on up and down stroke of the polished rod is not a criterion of correct counterbalancing.

THE attention and study given to oil well pumping in the past has been largely directed toward the performance of pumps and sucker rods, independent of their relation to surface equipment. A full knowledge, however, of oil well pumping conditions demands a study of the entire surface equipment and an appreciation of the interdependence variable factors which affect the conomics of succesful pumping installations.

As a contribution to this study, a numbr of recording oscillographic tests were made to provide a basis for analytical calculations of stresses and power requirements of surface equipment and for segregating the difference in magnitude and location of stresses between gas engine and motor driven wells with similar mechanical connections and varying types and amounts of counterbalance. The oscillograph was of the six-element type; and by means of it in connection with suitable telemeters, tachometers, ammeter, and slide wire were simultaneously recorded the instantaneous values of polished rod stress, polished rod travel, motor input horsepower, motor input current, motor speed, engine shaft torque, and engine cylinder pressures in definite relationships, as shown in Fig. 1 to 14, which are self-explanatory. On account of reduction in size of original oscillograms, these figures show only comparative values. Actual values may be scaled off only from the originals.

A study of the several figures shows the variation in magnitude and point of occurrence of the peak torques for different conditions of counterbalance and types of prime movers. With the standard band wheel set up, torques on the crankshaft show but little variation with counterbalance, whereas motor torques show very definite variations, the difference in the two being stored up energy in the system intermediate between motor crank shaft. The lower this

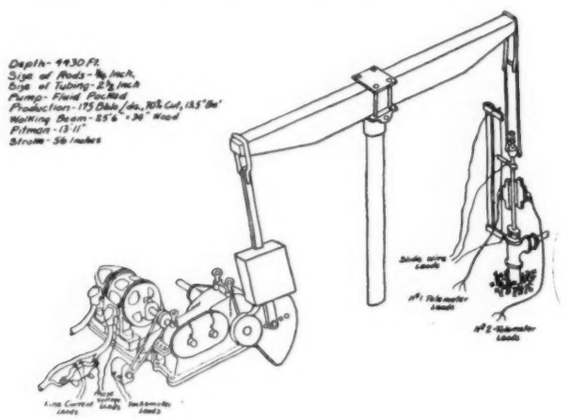

Depth - 4930 Ft.
Size of Rods - ⅞ Inch,
Size of Tubing - 2⅜ Inch
Pump - Fluid Packed
Production - 175 Bbls./day, 30% Cut, 13.5° Be'
Walking Beam - 25'6" - 36" Wood
Pitman - 13-11"
Stroke - 56 Inches

FIGURE 1
Typical set-up for motor drive tests showing location of instruments and well data which applies to Figures 2, 3 and 4 for combination pitman and rotating type counterbalance

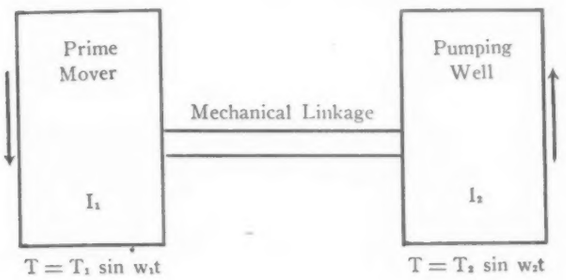
stored up energy, the greater must be the variation in torques of the prime mover to compensate for the impulses set up by the well.

Inertia Effects Low

If only a multiple gear reduction is used between the pitman and the prime mover, the inertia effects are low; and, consequently, the impulses set up by the well must be overcome by suitable counterbalance on the slow speed side of the gear set if the gear is to be relieved of objectionable stresses in the case of engine drive and the prime mover of

excessive torques to carry the well over the peaks on the upstroke in the case of motor drive. Further to clarify this last statement, it is necessary to establish the difference in performance between engine drive and motor drive.

A prime mover such as a gas engine with heavy fly wheels produces much higher torsional stresses in the mechanical system between the prime mover and the well than does a motor drive with inherently lower inertias. This can be shown best by representing the pumping system diagrammatically as follows with I_1 and I_2 as the inertias of the prime mover and the well, respectively. The pump must be represented by a variable inertia, as is true of all reciprocating systems.



Neglecting friction forces in the well and other parts of the system and the effect of flexibility in the rods, walking beam, and pitman; and assuming constant rotational speed of the crank and purely sinusoidal motion of the sucker rods, the stresses in the mechanical linkage (shown in this simple torsional system) under the influence of a sinusoidally varying torque can be shown to be:

$$\text{Stress due to } T_1 = \left(\frac{I_2}{I_1+I_2}\right)\left(\frac{1}{1-\frac{W_1^2}{W_e^2}}\right)$$

$$\text{Stress due to } T_2 = \left(\frac{I_1}{I_1+I_2}\right)\left(\frac{1}{1-\frac{W_2^2}{W_e^2}}\right)$$

Where W = frequency of the alternating torques
W_e = natural frequency of the system

If the engine is two-cycle and running at 200 r.p.m., and the well is operating at 20 strokes per minute, the frequency of T_1 and T_2 will be 200 and 29, respectively, with harmonics two, three, four, etc., times higher. The natural frequency of the system, if such system with a variable inertia at one end can be said to have a natural frequency, is about 340 per minute using the average inertia.

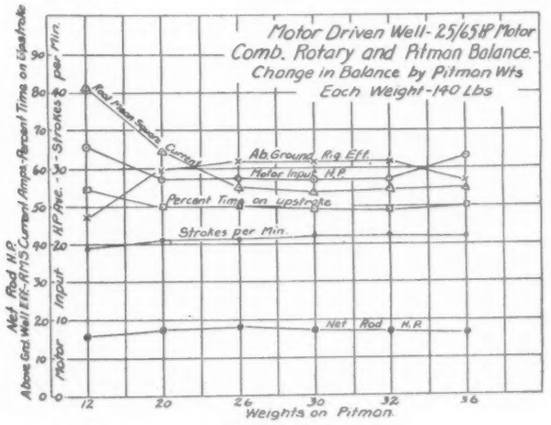

Motor Driven Well- 25/65 HP Motor
Comb. Rotary and Pitman Balance.-
Change in Balance by Pitman Wts
Each Weight - 140 Lbs
Net Rod H.P.
Above Grd Well Eff.-RMS Current-Amps.-Percent Time on Upstroke
H.P. Rec. - Strokes per Min.
Motor Input
Root Mean Square Current
Ab. Ground. Rig Eff.
Motor Input H.P.
Percent Time on upstroke
Strokes per Min.
Net Rod H.P.
Weights on Pitman

FIGURE 5

Results compiled from a series of tests including Figures 2, 3 and 4

The factor $\frac{I_1}{I_1+I_2}$ is a very small number, so that stresses due to engine torques can never be large. Resonance can hardly become dangerous in this system because of the tremendous damping caused by well friction. In the case of well torque T_2, the factor $\frac{I_1}{I_1+I_2}$ becomes very nearly equal to 1, and so is the resonance factor; therefore, the well variable torque can cause very large torsional stresses in the mechanical linkage.

On the average sized two-speed pumping motors, such as used on heavy pumping wells, I_1 is approximately 75 pounds inches seconds^2. This is about $\frac{1}{450}$th of the gas engines used in some of these tests. In the case of the engine, therefore, $\frac{I_2}{I_1+I_2}$ becomes nearly 1. The motor drive, however, has no harmonically varying torque, i. e., T_1 equals zero and T_2 cannot cause large stresses because $\frac{I_1}{T_1+I_2}$ is now a small fraction. Thus the problem of torsional stresses, which may be very acute with an engine drive, disappears in the motor drive.

Physically, this means that the well torques are working

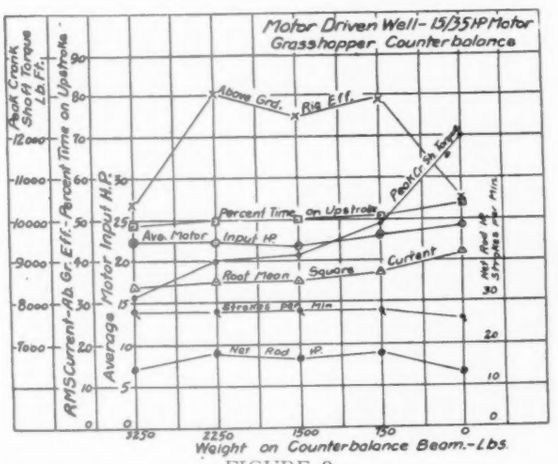

Motor Driven Well- 15/35 HP Motor
Grasshopper Counterbalance
Peak Crank Shaft Torque Lb. Ft.
RMS Current-Ab. Gr. Eff.-Percent Time on Upstroke
Average Motor Input H.P.
Above Grd. Rig Eff.
Peak Cr. Sh. Torque
Percent Time on Upstroke
Ave. Motor Input HP
Root Mean Square Current
Strokes P.M.P. Min
Net Rod HP
Net Rod Strokes per Min
Weight on Counterbalance Beam.-Lbs.

FIGURE 9

Results compiled from a series of tests with grasshopper type counterbalances, including Figures 6, 7 and 8

against a stone wall with the engine drive, and in the motor drive they work against a body which can give against them. This fact is distinctly discernible by comparing any engine driven with a motor-driven well. The motor will rise and fall in speed perceptibly to follow well reactions, but a gas engine on a similar well will not visibly show appreciable speed change. Of course, in the motor drive the motor must supply a little extra torque to help the total inertia of the system carry the motion over the peaks; but the torques in the mechanical linkage are essentially smaller than when an engine drive is used.

With an appreciation of these facts, it must be evident why reduction gears which will successfully pump a well using motor drive will not necessarily function without grief if a gas engine with heavy flywheels is used as the motive power. For similar reasons flywheels on high-speed pumping gear shafts impose additional stresses upon the gears, and if of sufficient size may cause gear shaft failure.

Choice of Gear Design

All factors considered, most economical pumping installations seem to point to the use of gear designs which do not

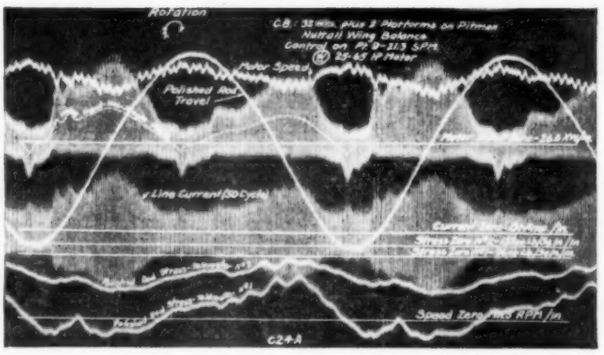


FIGURE 2
Well with best counterbalance. Well data on Figure 1

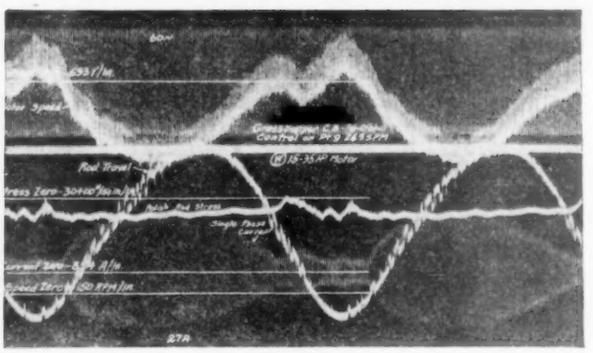


FIGURE 7
Same well as Figure 6, under-counterbalanced

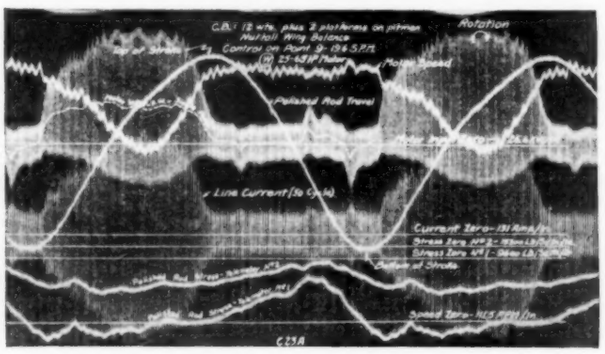


FIGURE 3
Same well as Figure 2, decidedly under-counterbalanced

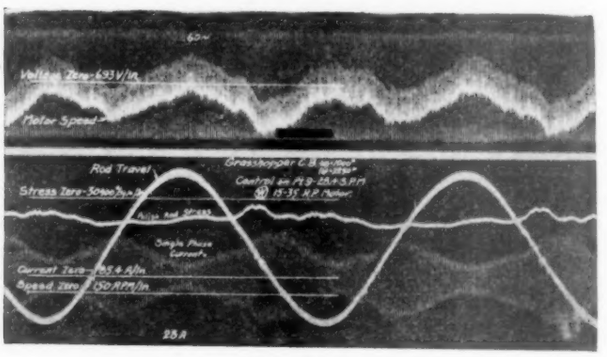


FIGURE 8
Same as Figure 6, over-counterbalanced

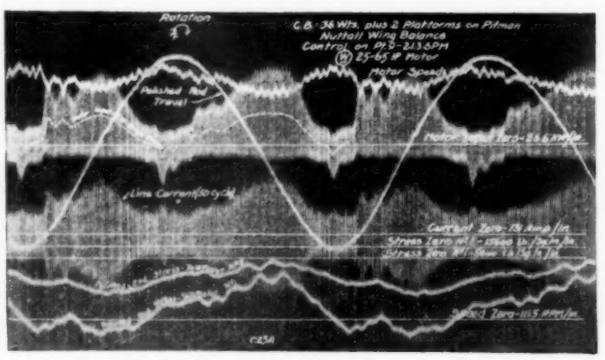


FIGURE 4
Same well as Figure 2, slightly over-counterbalanced

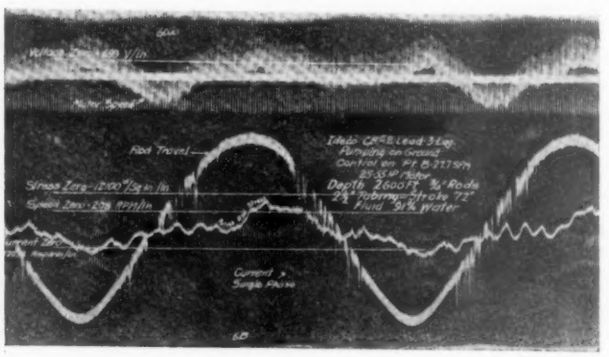


FIGURE 10
Motor driven well using rotating type counterbalance (best balance)

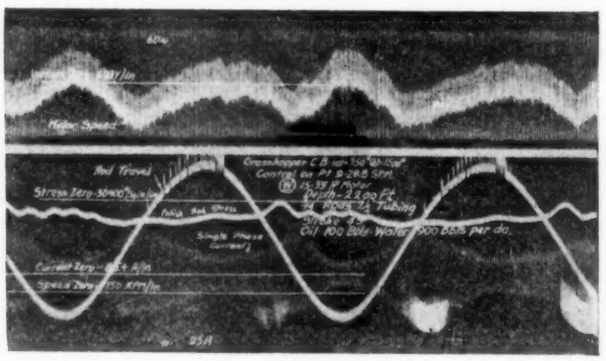


FIGURE 6
Motor driven well using grasshopper counterbalance (best counterbalance)

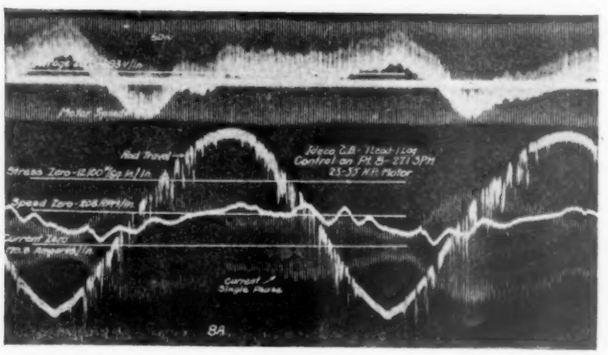


FIGURE 11
Same well as Figure 10, under-counterbalanced

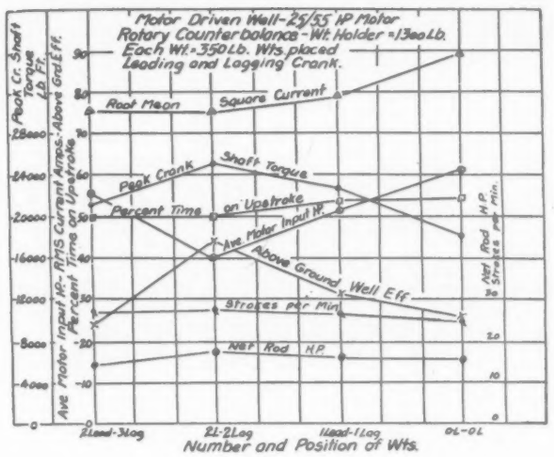

Motor Driven Well-25/55 HP Motor
Rotary Counterbalance-Wt. Holder =13cc Lb.
Each Wt.=350 Lb. Wts. placed
Leading and Lagging Crank.
Peak Cr. Shaft Torque Lb. Ft.
Ave. Motor Input HP-RMS Current Amps.-Above Grd. Ft.
Percent Time on Upstroke
Root Mean Square Current
Peak Crank Shaft Torque
Percent Time on Upstroke
Ave. Motor Input HP.
Above Ground Well Eff.
Strokes per Min.
Net Rod H.P.
Net Rod Strokes per min.
2 Lead-3 Lag
2 L-2 Lag
1 Lead-1 Lag
0 L-0 L
Number and Position of Wts.

FIGURE 12

Test results compiled from a series of tests with rotating type counterbalance, including Figures 10 and 11

provide for heavy flywheels used as counterbalances on the high-speed shaft. A rotating type counterbalance on the low-speed shaft relieves the gear of these excessive stresses and permits closer design in all parts of the gear unit. From an economic standpoint, the wisdom of such applications cannot be questioned, as it is obviously cheaper to add dead weight to a counterbalance on the low-speed shaft rather than to increase gear faces, shafts sizes, beaming sizes, and other parts of the gear case to allow a similar counterbalancing effect to be placed on the high-speed shaft.

A counterbalanace in the form of a flywheel on the high-speed shaft is admittedly much smaller and lighter in weight than one on the low-speed shaft to give the same counterbalancing effect. In fact, the ratio of these weights will vary inversely as the square of the gear ratio. For example, if a given counterbalancing effect is produced with a 100-pound flywheel of given dimensions on a high-speed gear shaft running at 600 r.p.m., and there is a 30 to one reduction between the motor and pitman, this same flywheel would be but one nine-hundredth as effective on the low-speed gear shaft.

The crank shaft or low-speed gear shaft on a pumping well is subjected to two forces, one bending and one torsional, and the two combine to produce shear. These stresses are pulsating, and are often of such magnitude as to cause shaft failure from fatigue. On any given well, both the bending and the torsional forces can be calculated from these equations:

$$\text{Bending } F_1 = W_r + W_o - W_p - \frac{b}{a} W_b - W_c + \frac{RW^2}{G}\left(W_r + W_o + W_p + \frac{b^2}{a^2} W_b + W_c\right) \cos wt$$

$$\text{Torque } T_1 = R\left(W_r + W_o - W_p - \frac{b}{a} W_b - W_c\right) \sin wt + \frac{R^2W^2}{2g}\left(W_r + W_o + W_p + \frac{b^2}{a_2} W_b\right) \sin 2\ wt$$

For the down-stroke the forces and torques designated as F_2 and T_2 respectively, are similar in form, except W_o is omitted from the equation. Therefore, the equation need not be rewritten.

W_r = weight of rods in lb.
W_o = weight of oil in lb.
W_b = weight of counterweight on walking beam
W_p = weight of counterweight on pitman
W_c = weight of counterweight on crank
A = length walking beam from center to pitman
C = distance between center walking beam and counterweight on walking beam
R = radius of crank in inches
$W = \frac{\pi N}{30}$ where N is the number of pumping strokes per minute.

With the entire weight concentrated in the crank (rotating type counterbalance) the above expressions become:

$$F_1 = W_r + W_o - W_c + \frac{RW^2}{g}(W_r + W_o + W_c) \cos wt$$

$$T_1 = R\ (W_r + W_o - W_c) \sin wt + \frac{R^2W^2}{2g}(W_r + W_o) \sin 2wt$$

$$F_2 = W_r - W_c + \frac{RW^2}{g}(W_r + W_c) \cos wt$$

$$T_2 = R\ (W_r - W_c) \sin wt + \frac{R^2W^2}{2g} W_r \sin 2wt$$

With the counterweight all in the crank, the forces remain exactly the same as before; but the second harmonic of the torque becomes very much smaller. The entire gain of having the weight concentrated in the crank is in this fact. Where all the counterbalancing is in the crank, there is a given optimum counterweight which makes both the forces and the torques take on a minimum peak value. It is significant that stresses computed from these equations always exceeded those obtained from actual test data.

(Continued on page 42)

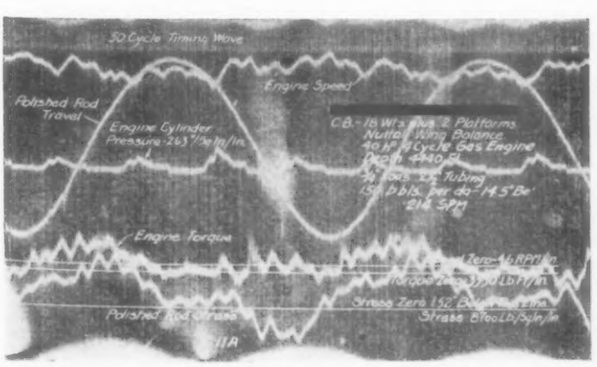


FIGURE 13

Gas engine driven well with combination pitman and rotating type counterbalance. Note engine torque variations

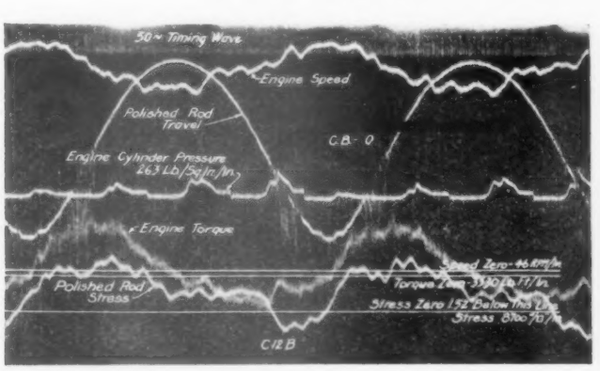


FIGURE 14

Same well as Figure 13, without counterbalance. Note extreme variation of engine torque

IN TWO PARTS—PART TWO

Engineering *and* Economic Aspect *of* Unit Operation

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PART 1 of this paper (read before the American Petroleum Institute at Chicago) appeared in THE OIL WEEKLY *of November 21, page 30, and dealt with the economics of unit operation—the comparative cost of development under orderly co-operation and under discriminate drilling, and the probable production of oil under the two plans.*

The present installment deals with organization of units to develop fields under the unit plan; the pooling of interests on the basis of equitable participation in the profits, and also allocation of drilling and other expense.

THE unitization committee of the Mid-Continent Oil & Gas Association has suggested three forms of unit contracts. These are known as the "committee" form, "trustee" form, and "adjustment" form.[1] So many detailed variations are possible, however, that it does not appear possible to classify plans into general groups; so far local conditions and requirements of member operators have resulted in special provisions in practically all plans.

The "committee" form of unit operation provides for the assignment of all leases to one party who reassigns an undivided interest in the whole of the unitized area to each party in the proportion that each party's original interest in assigned acreage bears to the acreage of the whole unitized area. An advisory committee is created with a member from each party, who is empowered to vote in proportion to his company's interest in the unit area. This committee appoints one or more of the parties as "operators" and confers with and directs the operating party or parties as regards development and production programs and other conditions specified in the unit contract. The advisory committee also passes on advance estimates of expenditures and arranges proper auditing and other important matters. Capital and operating expense are allocated to members in proportion to their interests as mentioned above. Production may be taken in kind by members in proportion to their interests in the unit area. No provision is made for weighting acreage for productivity or for adjusting members' interests at later dates to insure greater equity in membership interests as is done in the "adjustment" form of unit plan.

The "trustee" form of unit contract is not radically different from the "committee" from excepting that one member of the unit is appointed to operate the entire property for the benefit of the others. This form provides for the assignment of all oil and gas interests of all parties within the "unitized area" to one party known as the trustee. The trustee reassigns an undivided interest in all leases to the others in the proportion that the assigned acreage of each bears to the total unit area. Members share in all oil and gas produced in the same proportion and likewise share in the expense. Each party is given the right to receive his proportionate share of oil and gas in kind but the trustee does all the operating and accounting for the entire unit. Ample safeguards are set up to protect members in such matters as development and production policy and in major expenditures.

The "adjustment" form of unit contract may provide for the assignment of the leases of all in exchange for undivided interests in the unitized area or as in the Kettleman plan, for an undivided interest in ownership of all production from the unit area. The per cent interest of each member during the first period is generally calculated upon the basis of his proportion of acreage within the defined unit area. This form of agreement, including the assignment of leases principle, is understood to be in operation at Van field, Texas, and is novel because of its provisions for adjustments of members' interests at the end of two and one-half years and again at the end of five years. These adjustments are to be made on the basis of estimated productivity of the members' original holdings which were assigned to the unit. At such adjustment dates, retroactive adjustments of production and revenues, and of expense, are to be made and titles of undivided interest in the total unit acreage are to be corrected to correspond to the new membership interests. The original draft of the Kettleman Hills plan provided for yearly adjustments for 10 years and made provisions for retroactive adjustments of revenues and expense with interest, but later these features were eliminated in the interests of simplicity and a limited form of adjustment substituted. Under the adjustment plan, the "operator" may be one or more of the members, or may be a new and separate company with complete staff and a board of directors which are elected by member parties. All voting is done by members in proportion to their interests.

As the adjustment plan is designed to insure greatest possible fairness to all members even to the extent of correcting for inequities which are eventually shown by the

[1] "Handbook on Unitization of Oil Pools", by Mid-Continent Oil and Gas Association, Tulsa, Oklahoma, pp. 97-121, 1930.

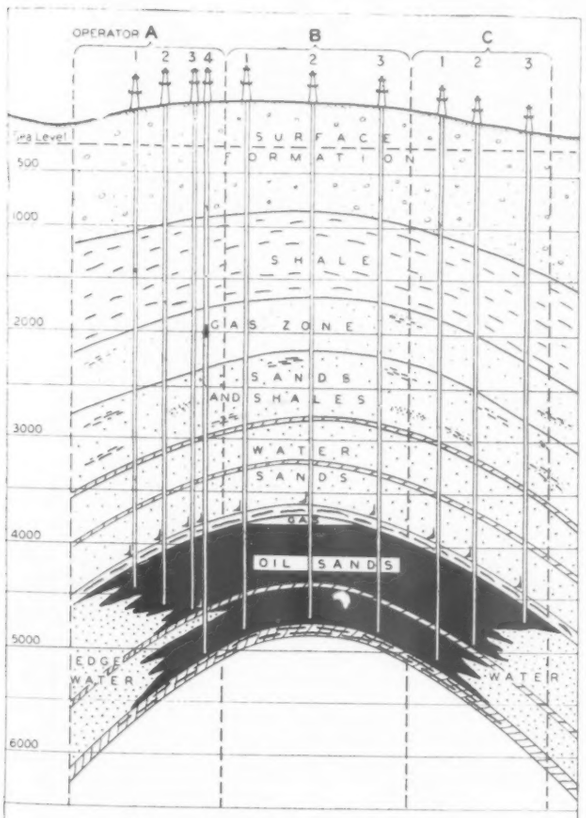
actual development of the field, it usually provides that a new producing zone be treated as a separate field and all accounting for production and expense in the new zone be done separately from the original zone.

The following paragraphs outline some of the interesting problems that arose during preparation of the Kettleman plan as well as some features of other plans furnished by other writers.

Members' Interests in Production

Fundamentally, every member is entitled to the share of the total oil, gas and natural gasoline produced from a field, that the productivity of his property for these products bears to the productivity of the field for the respective products at the time the unit company is formed. Just how to determine these proportions is one of the most difficult engineering problems in unit operation.

The simplest method of determining members' interests and the one most often suggested is on the basis of proved acreage. This eliminates, to a great extent, controversies



HYPOTHETICAL CROSS SECTION ILLUSTRATING POSSIBLE VARIATIONS IN PRODUCTION BETWEEN THE DIFFERENT PROPERTIES IN A GIVEN FIELD

FIGURE 3

over the relative state of productivity of oil, gas, and gasoline in different parts of the field. It may be argued that operators on the crest of the producing structure have proportionately more natural gas, and possible more casinghead gasoline than their neighbors on the flanks and conversely operators on the flanks may have more oil than operators on the crest, and therefore the original values of their respective holdings are quite different. It must be recognized, however, that each has valuable assets which can only be fully realized by cooperative action. The operator with most oil under his lands needs the gas energy, of which his neighbor may have a surplus, to enable him to effect greatest possible ultimate recovery. The man with most gas needs a share of the oil revenue because with reasonable field oil production to insure a stable market, the oil is immediately salable and of considerably greater value than the gas that accompanies this oil. Also, the gas produced with the needed oil may be greatly in excess of market demands and therefore of little value at that time. Great differences in productivity and values of different properties in a field are often more fancied than actual and the simplicity of determining interests on the basis of productive acreage commends this method.

The Van field plan and the original Kettleman plan provide for membership interest based on proved acreage which eventually will be weighted for productivity. Until enough development work can be done to provide necessary data for weighting, one percentage figure, based on proved acreage, is established for dividing the production or revenues and the expense among members. The Kettleman plan provides that ultimately three percentages would be established for dividing oil, gas and natural gasoline productions. These would depend, firstly, on proved acreage and, secondly, on engineering estimates of the proportion of recoverable amounts of these products under each individual's lands at the time of incorporation of the unit association to the total amounts of such products recoverable from the entire field. Because of its intangible nature, no weight was expected to be given to the usefulness of one of these products to the other in field practice. Also, it was not expected that cognizance would be taken of the effect of market demands for one product and the possible waste due to limited demand of another product which naturally accompanied the first.

Figure 3 is a hypothetical cross-section showing somewhat typical conditions in a California field. Oil zones are usually a series of sands separated by shales which have oil in the higher parts of the fold and water around the edges. Experience proves that edgewaters are not uniform as to relative vertical location in the several sands of a zone. Sometimes dry gas accumulations exist in sands that are productive of oil on the flanks and while this is not a common occurrence in California, it is shown in the cross-section in order to illustrate the several complications of weighting acreage. Engineers would be called upon to study such cross-sections, although it is apparent the detailed sections could not be prepared until a large amount of development work had taken place. As a result of these studies, engineers would set up some such tabulation as follows:

Oil Allotment Weighting

DIVISION OF ACREAGE FOR WEIGHTING

Operator	Total proved acreage	Acreage at full weight of productivity	Full weight per cent	Acreage at partial weight	Partial acreage weight per cent	Weight factor[1] per cent	Remarks
A	480	0	...	480	50	50.0	Penalized for edgewater.
B	640	160	100	480	92[2]	94.0	Enjoys full thickness of oil zone but penalized for gas cap.[2]
C	320	120	100	200	40	62.5	Penalized slightly for edgewater.

The illustration itself suggests the many complications that might arise. This method of dividing members' in-

[1]To be applied to operator's total proved acreage in computing his estimated share of productivity.
[2]This is an oil allotment weighting only—operator B would be given credit for gas and gasoline in separate weightings for those products.

terests is undoubtedly the most equitable theoretically, although, practically speaking, it has a great fundamental weakness in that it requires estimates of productivity which are made even more difficult by the requirement that they be as of a given past date. Accurate estimates of productivity are difficult at best but if these estimates must be as of the date of incorporation of the unit company, serious errors may develop because indicated productivity changes as exploitation takes place. The relative position of wells and the dates of completion of wells greatly influence indicated productivity. Even retroactive adjustments might fail to do equity to all parties. Such a plan places a tremendous responsibility on the engineers connected with the operation of the plan, both because of the values at stake and because of possible inaccuracies of even the most careful estimates of productivity. However, if conservatively applied, weighted acreage probably will give more accurate determinations of membership interest than acreage percentages alone.

Division of Capital and Operating Expense

Practically all unit plans provide for allocation of expense to members in the same proportion as their interests in the production from the unit area. In the development of the first Kettleman plan, however, it developed that certain operators wished to provide for weighting of expense as well as for productivity. These operators held, for example, that wells near the crest of the structure would be shallower than those near the edge of the field and should be cheaper to drill. Moreover, some edge wells might develop water troubles or for that matter be dry holes and the operator near the crest under competitive methods would not have these risks. They also contended that crest wells would flow longer and would produce oil without water or emulsion longer than edge wells and that production and dehydrating expenses would be less. Also, considering that wells on the crest might produce most gas and natural gasoline, the operators originally owning such acreage should pay the greatest portion of the capital and operating expense incident to gas gathering, gas sales and gasoline manufacture.

While percentages weighted for expense theoretically give greatest assurance of equity, still considered with weighted factors of productivity, they lead to possible complications in accounting that are almost staggering. Consider that a "top structure" operator, as for example B as shown in Figure 3, might have the full thickness of productive oil zone under land. His oil factor might be penalized slightly if a gas accumulation were present as illustrated by Figure 3, but even then he would have a relatively high oil weighting factor and would also have a high weighting factor for gas and gasoline productivity. In such a field as Kettleman, it would be necessary to raise the weighting factor of operator B because of light oil production from his lands as compared to heavier oil in the flanks, which adds another complication. Considering expense, operator B would be assigned a high gas expense factor because of large volumes to be handled and a low oil expense factor because of expected natural flowing wells and possibly because of shallower wells than on the flanks. The man with property low on the flank, as for example operator A, would have almost opposite factors. He might be charged with an extra large drilling expense factor because he would have to drill some twin wells, as indicated by wells numbers 2 and 3, Figure 3, in order to drain the two bodies of oil sand that are separated by water, although some of his wells might be shallower than those belonging to B, due to the smaller penetration along the edges of A's property. These complications in working out each member's fair share of revenues and expense are enough to warrant serious consideration of a flat rate percentage based on acreage even though the weighting system theoretically gives greater exactness in allocating revenues and expense.

Adjustments of Revenues and Expense

As mentioned, the Van and original Kettleman plans both provide for retroactive adjustments of the amounts of production or revenues received on the basis of productivity. Either present or retroactive adjustments can be applied also to the simple acreage allotment basis, for as developments proves a part of the original unit area to be non-productive, it should be excluded from participation. Likewise, inclusion of acreage contiguous to but not a part of the unit "productive" area is desirable as this prevents offset drilling by interests not a part of the unit.

Retroactive adjustments seem logical and fair, whether they be on the basis of interests in proved acreage or on acreage weighted for productivity, particularly when the unit plan is being applied in a proved field. No one is entitled to a share of production based on a part of his original acreage that is found to be non-productive. If the unit consists of a group of leases on wildcat acreage, which was pooled in the exploratory stage for the common good, it is possible that operators would be willing to combine their holdings, none of which was proved, and accept a final undivided interest in whatever might be found. Some operators, however, hight feel that their geological work was dependable enough that they could fairly expect to have an advantage over certain others in the unit and this immediately suggests again the idea of retroactive adjustments.

It would seem that an operator who was found to have an unproductive piece of property that was excluded from participation in revenues should not be charged a share of development and operating expense for that acreage, though the equities of the latter point are less clear inasmuch as the opeartor probably would have had to incur some exploratory expense on the unproductive piece or forfeited his lease.

Two articles from the original Kettleman plan relating to exclusion of non-productive acreage and inclusion of productive acreage, though eliminated by the committee, are shown at the end of this paper as Appendices A and B because they are interesting and intricate examples of the application of retroactive adjustments.

Protection Against Outside Development

Inclusion of every operator and landowner in a given structure in the unit is, of course, to be desired but it is not likely that this will always be possible. For one cause or another, it will frequently happen that several tracts will remain out of the unit either as regards operating ownership or royalty ownership. Such tracts raise special problems for the unit management because they will generally be developed promptly and therefore will require prompt offsetting on the unit lands. Obviously, this is the only course possible unless the owners or royalty holders of such tracts as the case may be, are willing to enter into some form of cooperative agreement with the unit company to time development and production with market demands.

Although this is a bothersome problem to the unit company, it is not necessarily insurmountable if too much acreage does not remain out of the unit or if, as in Kettleman, large blocks of outside acreage belong to one operator who is willing to enter into a satisfactory cooperative agreement with the unit company and thus insure control of development and production. To protect against a few small outside tracts where owners will not cooperate, the unit company can discontinue development on all other parts of its holdings and concentrate on wells along such

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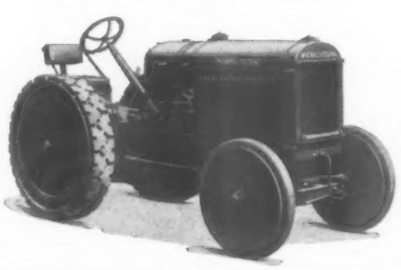

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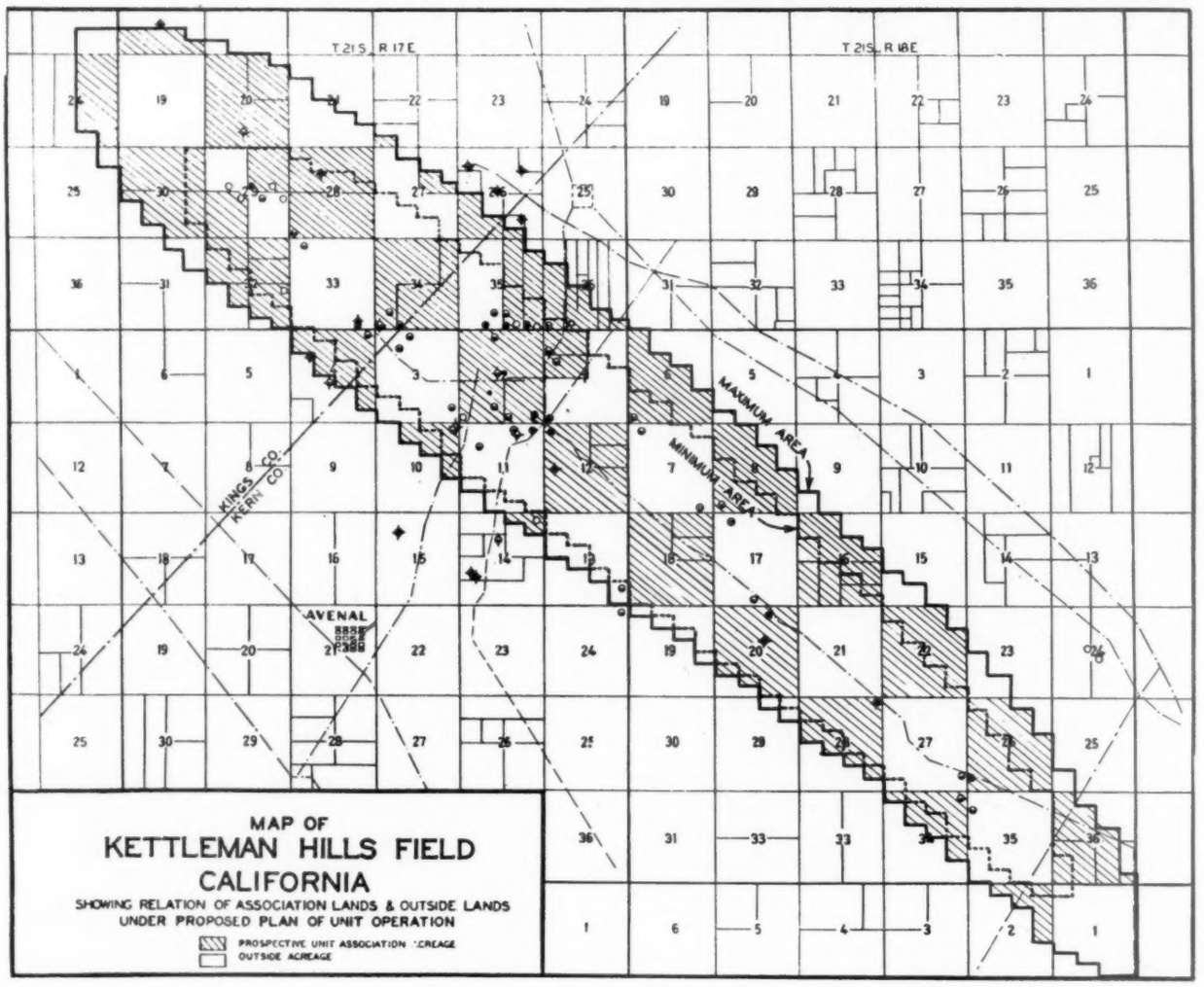

FIGURE 4

property lines. The chief danger from a situation of this kind is from overproduction which might result from competitive drilling in the event the parcels of non-cooperative outside acreage were large enough or numerous enough to force a large amount of development work by the unit company.

The Kettleman Hills plan offers an interesting example of cooperative effort between a unit company and a large outside operator. In this field Standard Oil Company of California owns alternate sections in fee, as shown in Figure 4, and for various reasons prefers to retain ownership and operate these properties itself, joining the unit association only in so far as its leased acreage is concerned. Standard Oil Company of California, however, has signified willingness to enter into a cooperative agreement with the unit association by which development and production can be equitably controlled and the dangerous factor of competitive operation eliminated. As it owns practically 50 per cent of the field, it is anticipated that the representatives of the company and the unit association can agree on such matters as rates of development and therefore protection of the respective holdings of each party.

Relations with Lessors

It is admittedly difficult to conceive that an operator could join in a unit plan if his lessors were actively opposed and it is highly desirable that the consent of all lessors be secured. By demanding fulfillment of their lease terms, which frequently include obligations for continuous drilling until the property is drilled up as well as "diligent" operation of producing wells, non-participating lessors could force the unit company to concentrate its work on their holdings and even to pay them royalties at the same time pro rata royalties were being paid to other participating lessors. However, even this obstacle can be overcome if too many lessors do not withhold their consent to the unit plan for the unit company may be able to discontinue production in all other parts of the field and obtain its needed production from the properties of the non-participating lessors. As suggested previously, the chief danger of this is from overproduction.

If the plan is of the adjustment form, it may become necessary at some time to exclude some property from the productive area and to collect pro rata overpayments for production which an operator and his lessor have received by virtue of that property originally being classed as productive. If both operator and lessor still have other productive holdings in the unit, the unit company is protected for, if necessary, it can withhold a member's payments for remaining productive lands. However, if exclusion of such property entirely excludes an operator or royalty holder from interest in the unit, it may be impossible in isolated cases to collect overpayments. This must be recognized and is a strong argument for adopting a conservatively drawn line to designate the productive limits of the field. If this is done, any adjustments are likely to be in the

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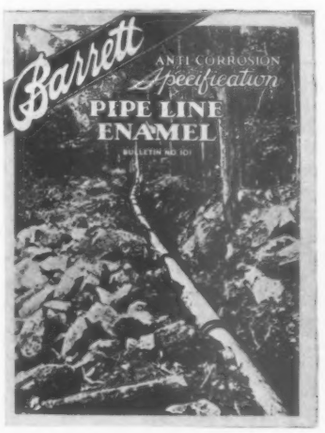

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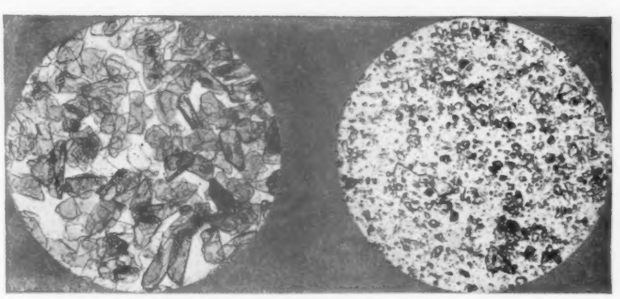

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form of reimbursements to operators on the edges from those in the heart of the field and such adjustments, of course, are well secured.

If it becomes impossible to collect overpayments from an operator who has no property left in the unit, it is suggested that the unit company charge the bad debt to expense and allocate it to all members. If a lessor or a member refuses to refund overpayments, it is likewise suggested that the unit company share the overpayment. Inasmuch as the board of directors of the unit company determines the productive limits of the field without approval of a member and that member therefore has no authority other than his own power to vote, either including or excluding such of his lands from the productive limits of the field, it seems logical that he should not be held responsible for any overpayments of royalty which might be unrecoverable from the lessors, but that these should be deducted from the unit company's reserve fund.

Other Problems

Many other problems are encountered in developing a unit plan for operation of a field and discussions in this paper have been confined to matters of fundamental policy which require decision before a detailed plan can be prepared. In developing the Kettleman plan a great many points were discussed of which the following are typical:

(a) Computation of members' acreage: Recognizing that all sections are not normal sections of 640 acres and that certain operators would be benefitted or penalized if actual acreage figures were used instead of normal sections and subdivisions thereof, the question arose as to which method of calculating members' acreage should be used. The productivity of Kettleman North Dome field is thought to be so great that rather substantial amounts are involved even though sections vary from normal by only a few acres. This is a strong argument for accepting acreage allotments as shown by exact surveys. However, it was finally decided advisable to calculate an operator's and lessor's acreage on the basis or normal sections and subdivisions of sections because of the lack of a definite survey which could be accepted without danger of controversy. Even though section corners were clearly marked, subdivisions of sections would have to be surveyed depending on lessors' and operators' interests, and lacking an accurate and definite survey, it was apparent that bitter disputes would arise over the areas of members' holdings.

(b) Accounting to members: Inasmuch as practically all unit plans give members the right to take their shares of production in kind, the question arises as to whether these shares shall be accounted for in the usual volumetric units or in terms of money value of the products. The answer to this depends on the method employed in determining members' interests in the production of each of the commodities, namely, oil, gas and gasoline. Also, should members' shares of capital and operating expense be obtained by the levying of assessments or should members be required to buy their shares of the products, to which they are entitled, from the unit company with the provision that the management of the unit company may retain the necessary part of members' payments for capital and operating expense, returning the balance to members in proportion to their interests as profit or dividends? If accounting for members' shares of production is done in terms of money, certain prices must be used each time an accounting is made, and presumably this will be once each month. This suggests the need for an official price for commodities because it must be the same in accounting to all members. If the unit plan is of the "adjustment form," the need for an official price is even greater, because if retroactive adjustments are made at future dates, it will be necessary that the adjustments be calculated upon the basis of the official price of commodities at the times they were produced as compared to their value at the time of adjustment.

(c) Drilling of wells on non-participating property: Inclusion of all possible productive acreage within the area subject to unit development is desirable if the adjustment plan is to be used because competitive drilling to protect against offset wells is thereby eliminated. However, it is quite likely that certain productive acreage will be found in some fields beyond the limits of production as defined at the time of incorporation of the unit company. If possible, this acreage should be taken into the unit plan with some compensation to its owners for delayed revenues and perhaps for drainage. In considering this problem, the Kettleman committee suggests that any operator who risked the expense of drilling a well outside of the defined unit area be compensated for this well at twice its cost if it were productive with the further understanding that 40 acres of his property would be declared productive and would be accepted into the unit association with full rights of participation. If the well were non-productive, the operator, of course, would receive no compensation for after all he would have elected to drill a well outside of the area which the committee thought to have reasonable chances for production.

Pooling Gas Contracts

(d) Pooling of gas contracts: Inasmuch as the market for natural gas is generally limited and the disposal of excess gas is becoming important because of a tendency of State and Federal governments to legislate against gas wastage, the pooling of gas contracts and, for that matter, of all possible gas outlets is of great importance to operators. Sales of gas differ from sales of oil because there are seldom more than one or two utilities which have pipe line connections to a field and are in position to buy surplus gas. If certain individual members of a unit company held all the gas contracts available to the field, other members would have no opportunity of sharing in the revenues from gas sales or of disposing of surplus gas in the event useful disposal became necessary through state legislation, such as the California gas law. Pooling of gas contracts, however, requires certain operators to give up a definite source of revenue which they may have secured for themselves through forehanded business methods and the problem, therefore, is one that must be studied and dealt with separately in each field.

(e) Development and production of properties: The operating member or members or the board of directors of the unit company, depending on the exact organization, must be charged with certain specific duties of which the following are typical: 1. Comply with all lease obligations relating to members' properties, except as modified by lessor's consent agreement; 2. protect unit acreage against offset development on lands outside of the unit; 3. proceed diligently to drill wells to establish the productive limits of the field, if any form of the adjustment plan is used, in order that members' participation can be determined accurately at the earliest possible date; 4. drill wells in such localities and in such manner as to insure greatest ultimate recovery of oil and gas with least development expense; and 5. employ most approved and efficient production methods to insure greatest possible recovery of oil, gas and gasoline from the unit area.

These topics are only a few of the many that must be studied in the preparation of a unit plan that will be ac-

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ceptable to individual operators in any given field. The preparation of detailed agreements, and in case of incorporation of a separate unit company, articles of incorporation and by-laws, are legal matters which obviously require the best possible legal advice, but after all the plan is one designed to provide for practical operation of an oil field and therefore is very much a problem for the production engineer. In drafting a unit plan for a given field, it is recommended that a committee of lawyers and engineers be appointed with instructions to work jointly and not separately, for it is only by this combination of talents that the most practical plan, and yet one which meets legal requirements, can be drawn.

APPENDIX A

Extract from Article III of the proposed by-laws of the Kettleman Oil Association as submitted September 20, 1930. (Later eliminated).

Exclusion of Property From Productive Area:

Upon finding by the engineering advisory committee that a member's property or portion thereof included within the productive limits of the field was non-productive at the time of incorporation of the association, the board of directors shall immediately exclude such property or portion thereof from the said productive limits of the field, and said member shall reimburse the association for any benefits he received by reason of said property or portion thereof having been classified as productive, less amounts paid thereon by such member to the investment and maintenance funds. Such reimbursement shall be made in kind or in money, from the proportion of the products derived from the association's acreage, or the value thereof, to which said member is then entitled.

If, after said property or portion thereof is excluded from the productive limits of the field, said member has no property remaining therein, or if the property of said member then remaining within such limits has not sufficient productivity to reimburse the association within the period of 12 months next succeeding the date of exclusion of said property or portion thereof for products furnished or money paid to said member on account of said excluded property or portion thereof, the member shall, in the first instance, reimburse the association in money for the value of said products at the time of their production or, in the second instance, in money equivalent to any deficit remaining after the association has received all of the available products or value thereof which, within said 12 months period, will accrue to the member's property.

In computing said amounts due the association the value of said products shall be based upon the official prices[1] of the association, during the period said excluded property or portion thereof was classified as productive. If payments are made in kind, the amounts to be delivered to the association shall be calculated upon the basis of the association's official prices at the time of delivery and such deliveries may be made over the period of 12 months next succeeding the date of exclusion of said property or properties thereof.

[1]The plan provided for establishment of an "official price" each month by the board of directors as a basis upon which any later adjustments with members should be made.

APPENDIX B

Extract from Article III of the proposed by-laws of the Kettleman Oil Association as submitted September 20, 1930. (Later eliminated).

Inclusion of Non-Participating Property:

Upon finding by the engineering advisory committee that any member's non-participating property, or a portion thereof, is productive and the establishment by said committee of the productivity thereof, the Board of Directors shall immediately declare said property, or portion thereof, to be within the productive limits of the field. Thereupon the member shall be entitled to the share of any products derived from the association's acreage which have accrued to said property or portion thereof from the date of incorporation of the association to the date when the same was declared productive, or the value thereof. If the member desires to be paid in money for said products the association shall, within 90 days after written notice to that effect from the member, pay to him an amount equal to the value of said products based upon the association's official prices therefore effective during said retroactive period, less the membership fees and the member's proportion of the maintenance funds relating to said property or portion thereof during such period. Should the member elect to receive said products in kind the amounts to be delivered to him by the association shall be calculated upon the basis of the association's official prices at the time of delivery, and the association shall, upon payment to it of the membership fees and the member's proportion of the maintenance funds relating to said property during such period, deliver to such member one-twelfth of the amount of each or any of said products to which such member is entitled, over the period of 12 months next succeeding the date of inclusion of said property or portion thereof.

The Mechanics of Oil Well Pumping

(*Continued from page* 31)

Theoretically, when counterweights are applied, they should be such that resultant stresses are kept within the limits of the mechanical drive equipment and of such a value that the motor torques do not reach excessive values on each up-stroke of the pump. With extreme loads on the motor, every stroke of the pump increases motor heating and results in inefficient operation and high power bills. Fortunately operators are not compelled to go through a series of calculations when applying mechanical drives to pumping wells. This has already been done by the designer, who makes allowances for an average set of working conditions with definite factors of safety. It remains for the operator only to counterbalance wells in an accepted manner to produce the most economical installation over-all, both from a maintenance and power standpoint.

As a result of the detailed analyses of the test data from which the final curves were derived, the following general and definite conclusions can be drawn:

1. A rotating type counterbalance on the pitman side of the crank shaft gives maximum beneficial effect for protection of the surface equipment interposed between the prime mover and the crank.

2. Gas engines and flywheels (heavy prime mover inertias) do not allow reduction of stresses on surface equipment arising from variable well reactions. Motors (small inertias) result in considerable reduction of these stresses.

3. On single cylinder engines the variable torque delivered, due to combination of explosions and reciprocating inertias, superimpose high peak stresses on the surface equipment.

4. The analytical method of computing weight of rods and column of fluid and then taking a definite percentage of this (65 to 80 per cent) remains the simplest method of counterbalancing gas engine driven wells.

5. With band wheel drive, the torques on the low-speed shaft showed little variation with counterbalance; while motor torques showed very definite variations, the difference in the two being stored up energy in the system intermediate between motor and crank shaft.

6. With multiple reduction gears instead of the band wheel drive, the best counterbalances would indicate the best behavior throughout the whole drive, as the motor and gear shaft torques rise and fall together.

7. On electrically operated wells, the best criterion of the counterbalance is equal current peaks to minimize motor heating. For better drives this condition does not necessarily produce minimum power consumption or minimum stress throughout the system.

8. On the gear drives (multiple reduction units having the pitman directly connected to the low-speed gear shaft) the counterbalance giving the best motor heating condition will give the best operating conditions on all surface equipment.

9. Rod stress is an insensitive indication of counterbalance.

10. Motor operated wells can be satisfactorily and easily counterbalanced by using a wattmeter, ammeter, or tachometer of the graphic type.

11. Extreme overloads on motors, caused by using underrated motors or insufficient counterbalance, makes them operate inefficiently; hence power bills will be higher.

12. The difference in time on the up and down-strokes is not a criterion of counterbalancing. While this difference may be observable, this method is not a solution of correct counterbalance.

It is recognized that only by such observations and tests on surface equipment, correlated with those of the type made on sub-surface equipment by F. W. Lake and discussed at last year's Petroleum Institute meeting, can the ultimate in economic well pumping be attained. There is still much to be done.

The writer gratefully acknowledges the assistance of M. Stone and J. Ormondroyd in securing and analyzing the data, and of W. L. Cory for completely compiling the results.

Moore WALKING BEAM

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A heavy, rolled steel girder section forms the basis of Moore Walking Beam strength. It has electrically welded web and flange stiffeners at nose, tail, saddle and intermediate points. The cast steel temper screw bearing support is secured to the beam by both rivets and electric welding. Removable temper screw bearings ordinarily furnished are of babbitted cast iron. Hard wood bearings can be supplied.

There are beams for pumping or cable drilling. Of special interest is the underslung type for pumping service, which is pictured above. With this design the deflection of the polish rod is very slight and even the longer stroke wells can be pumped without special rod hangers. The cable drilling beam has the temper screw bearing on top instead of being underslung.

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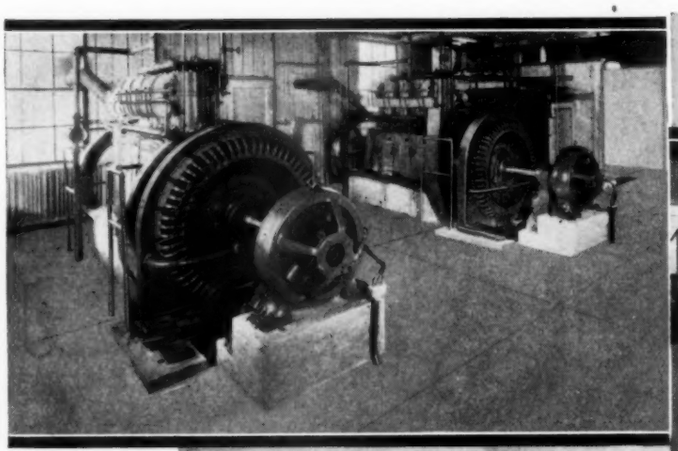
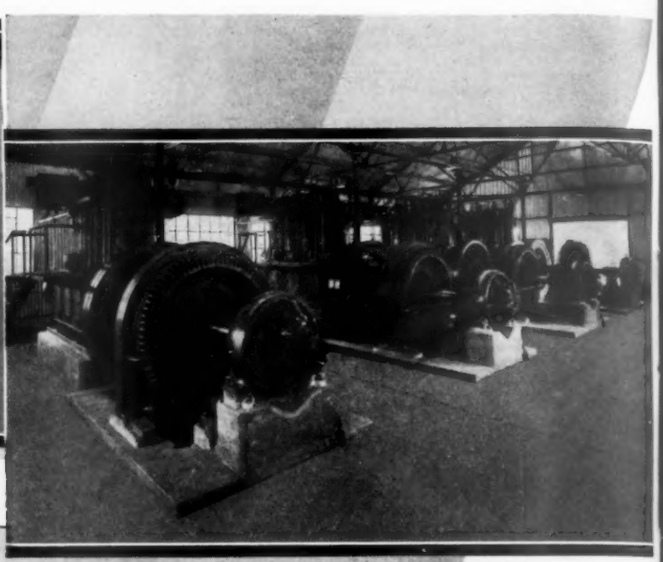


SIMPLE



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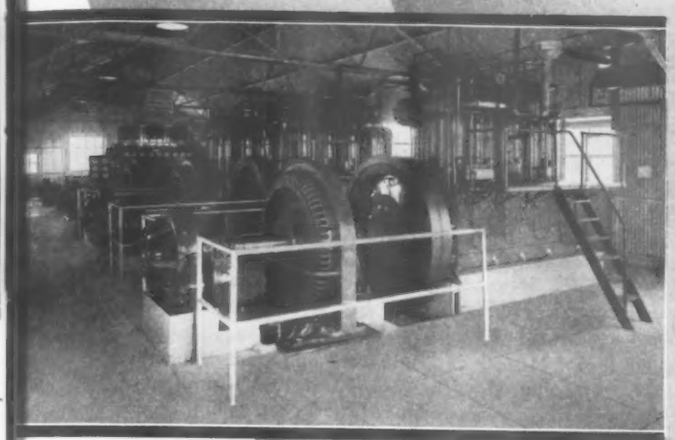

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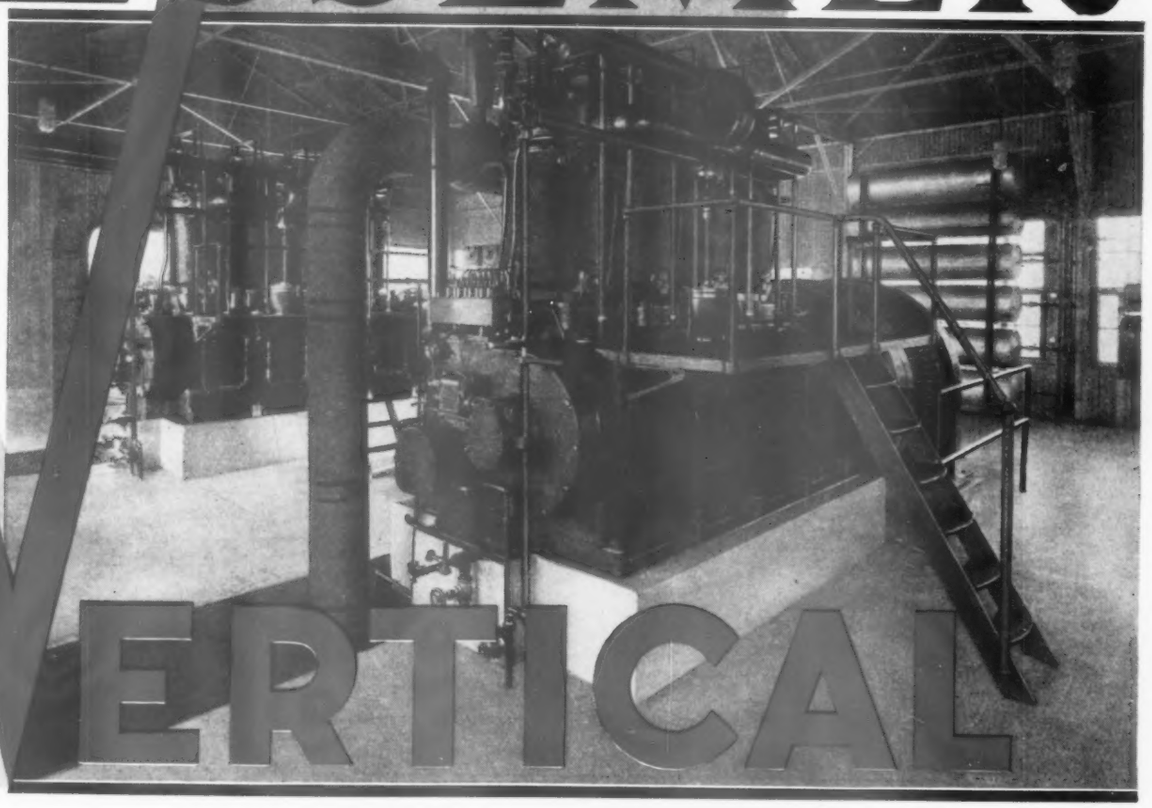


Natural Gas Industry Forging Steadily Ahead

By H. J. STRUTH
Staff Economist

THE year 1929 was another record-breaking year for the natural gas industry. According to a report compiled by G. R. Hopkins, economic analyst of the U. S. Bureau of Mines, the production of natural gas in the United States for 1929 reached the new high record of 1,917,693,000,000 cubic feet. This represents a gain over 1928 of 22 per cent, compared with an average annual gain over preceding 10 years of about 10 per cent. This unusual growth is attributed by the Bureau of Mines primarily to the completion of a number of new distributing systems entering several states and reaching many towns and cities not previously served with gas.

A summary of the Bureau of Mines report, including official statistics as shown in Table 1, reveals some important changes in the status of natural gas producing states. Texas, by virtue of a 54 per cent gain in output, became, for the first time, the leading natural gas producing state. This is stated by the Bureau of Mines to have resulted primarily from a material increase in production in the Panhandle area. Oklahoma was second, with California third, but the latter state showed a greater annual increase than Oklahoma. Both Louisiana and West Virginia, which rank fourth and fifth, respectively, reported increases in output in 1929. Some of the other states—notably Kentucky, Montana, Michigan and New Mexico—made material gains in output in 1929.

There were 5,116,000 domestic consumers on December 31, 1929, as compared with 4,344,000 at the beginning of the year. California showed a 61 per cent gain in consumers and displaced Ohio as the first ranking state in this respect. A large part of the gain in California consumers was due to the completion of the San Francisco line in the latter part of the year. Total consumption of natural gas for domestic purposes in 1929 showed a gain of 12 per cent over the preceding year. The average consumption per domestic consumer fell off materially in 1929 when it

TABLE 1
U. S. BUREAU OF MINES SUMMARY OF NATURAL

STATE	PRODUCTION			DOMESTIC				
							Field (drilling, pumping, operating gasoline plants, etc.)	
	Quantity (millions of cu. ft.)	Estimated average value at wells per M cu. ft. (cents)	Average value at points of consumption M cu. ft. (cents)	Thousands of consumers	Consumption (Millions of cu. ft.)	Average value at points of consumption per M. cu. ft. (cents)	Millions of cu. ft. (estimated)	Value (thousands of dollars) (estimated)
Ark.	19,928	6.5	19.1	62	7,535	48.6	15,221	$ 1,274
Calif.	342,214	8.5	20.2	1,239	43,499	86.9	216,337	18,409
Colo.	2,787	2.5	24.2	77	2,731	92.4	830	27
Ill.	2,983	10.3	13.0	13	94	84.0	2,895	297
Ind.	1,012	38.8	51.2	16	696	64.8	23	3
Kan.	38,469	7.8	34.9	170	15,539	60.4	11,990	1,470
Ky.	27,588	12.7	32.0	157	11,501	45.5	1,291	162
La.	261,138	3.0	10.1	115	7,917	54.0	25,030	1,006
Mich.	4,526	9.9	19.9	11	342	104.1	520	51
Miss.	90	7.8	35.6	4	518	45.2	4	1
Mo.	324	9.9	50.6	121	7,224	85.5	12	2
Mont.	9,659	4.2	24.6	15	3,033	42.5	1,008	115
N. Mex.	3,054	5.0	17.6	2	181	65.2	555	33
N. Y.	8,387	33.2	66.0	248	16,531	67.3	269	96
Ohio	57,936	16.6	56.8	1,214	88,169	63.8	5,117	1,448
Okla.	357,893	6.6	15.0	225	31,263	44.6	247,539	23,150
Pa.	101,951	27.6	47.9	634	53,223	61.5	6,929	2,118
S. Dak.	99	8.1	40.4	4	870	62.8	.....	....
Tenn.	25	8.0	44.0	36	1,311	97.6	(2)	(2)
Texas	464,928	3.3	14.5	503	38,830	64.1	128,454	14,067
Utah	693	2.0	29.6	36	397	89.7	.....	....
W. Va.	167,333	17.6	44.1	185	24,921	34.6	18,844	3,722
Wyo.	44,648	3.7	8.6	15	2,877	46.6	22,207	900
Other	28	7.1	20.0	14	651	81.9	8	1
Total 1929	1,917,693	8.2	21.6	5,116	359,853	62.0	705,083	68,352
Total 1928	1,568,139	8.9	23.2	4,344	320,877	62.0	573,698	58,356

[1]Includes value of gas used at refineries and at public utility power plants.
[2]Included under "Others" and duplicated under "Total Industrial" to avoid revealing figures of individual operators.

TABLE 2
SUMMARY OF STATISTICS FOR NATURAL GAS IN THE UNITED STATES, 1924—1929

	1924	1925	1926	1927	1928	1929
Natural gas consumed:						
Domestic.....millions of cubic feet..	285,152	272,146	289,175	296,036	320,877	359,853
Industrial [1]—						
Carbon black .....do....	156,514	140,366	130,321	144,087	175,137	261,107
Field .....do....	393,437	423,524	478,188	549,455	573,698	705,083
Electric public-utility power plant fuel .....millions of cubic feet..	48,443	46,521	53,207	62,919	77,326	112,707
Refinery fuel .....do....	257,936	87,842	121,449	123,395	114,950	103,729
Other industrial .....do....		218,040	240,513	269,352	305,991	374,972
	1,141,482	1,188,439	1,312,853	1,445,244	1,567,979	1,917,451
Domestic .....per cent..	25	23	22	20	20	19
Industrial .....do....	75	77	78	80	80	81

[1] Figures on consumption by public utilities from U. S. Geological Survey; others partly estimated.

amounted to only 70,300 cubic feet, as compared with 73,900 cubic feet in 1928. This decline was stated by the Bureau of Mines to have been due primarily to the fact that the number of consumers includes those connected to the San Francisco line; but since this line was not placed in operation until the latter part of the year, the consumption figure included gas used by these new consumers over a short period only. The average price of natural gas to domestic consumers during 1929 was 62 cents per thousand cubic feet; the same as the average for 1928.

Field Use Still First

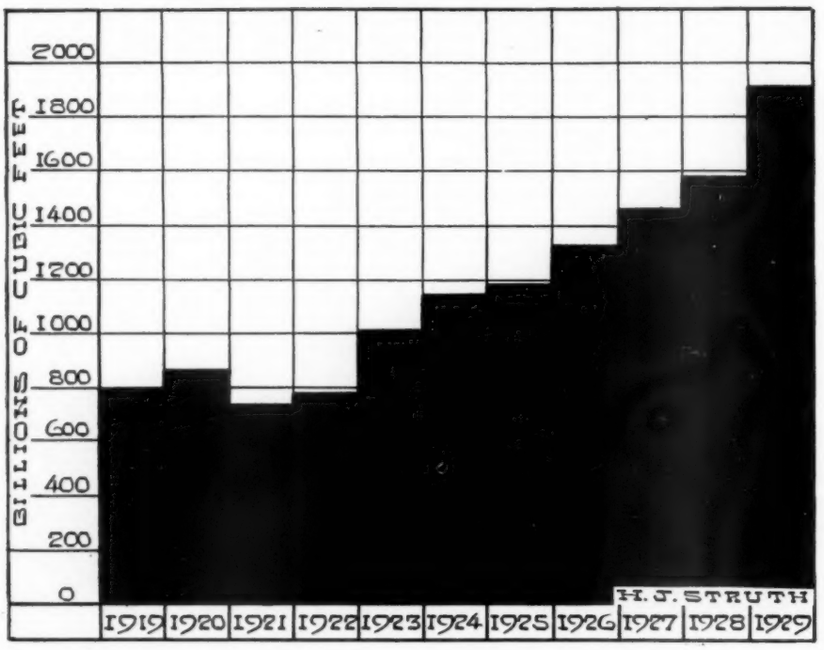
The consumption of natural gas for field purposes easily retained first rank among the various classes of consumption. During 1929 a total of 705,083,000,000 cubic feet was utilized in the operation of natural gasoline plants and burned under boilers or used as fuel for gas engines incident to the drilling and pumping of wells. The increase in field consumption in 1929 checks quite closely with the increase in number of wells completed and with gains in natural gasoline production. Oklahoma and California were the leading users of gas for field purposes in 1929. The use of natural gas for the manufacture of carbon black ranked next to field use in importance in industrial use. Consumption of natural gas for this purpose showed an increase over 1928 of 49 per cent. Texas was the leading carbon black producing state in 1929. Low fuel oil prices brought about a further decline in the consumption of natural gas as refinery fuel. Increased recovery of refinery still gas is also cited by the Bureau of Mines as a factor in the decline in refinery natural gas consumption during 1929. Consumption of natural gas by public utility plants increased 46 per cent over 1928; Texas ranking first in the use of natural gas for the generation of electricity.

Interstate transportation of natural gas grew rapidly in importance in 1929, following completion of several large lines traversing a number of states. Total interstate movement of natural gas during 1929 amounted to 325,021,000,000 cubic feet, an increase over 1928 of 35 per cent. The movement from states of origin to consuming states was equivalent to 17 per cent of the total production of natural gas in the United States. The movement of natural gas from West Virginia to consuming centers in Ohio continued to be the largest single item, although other interstate movements, for example, those from Texas to Oklahoma and from Louisiana to Texas, showed larger increases in 1929.

The accompanying chart shows the growth that has attended the natural gas industry since 1921, the year that production indicated a declining tendency, and emphesizes the marked gain in output during 1929. Readers of THE OIL WEEKLY will probably recall that this gain was forecast in the January 31, 1930, issue, wherein it was stated that production of natural gas had probably reached a total of 1,900,000,000,000 cubic feet during 1929. The estimate was based upon the indicated production of natural gasoline during that year, assuming that about 95 per cent of all natural gas produced was treated for the recovery of gasoline. As a matter of fact, official figures reveal that actually 102 per cent of the reported production of natural gas in the United States was treated for the recovery of natural gasoline during 1929. This is the first time that the quantity of gas treated has exceeded the figure of marketed production and shows that a considerable quantity of gas treated was blown into the air. Gas thus

GAS STATISTICS, 1929

CONSUMPTION					
INDUSTRIAL					
Manufacture of carbon black		Fuel at petroleum refineries, fuel at electric public-utility power plants, and other industrial			
		Millions of cu. ft.			
Millions of cu. ft.	Value at points of consumption (thousands of dollars)	Petroleum refineries	Electric public-utility power plants	Other industrial	Value at points of consumption (thousands of dollars)[1]
.....	....	4,548	1,222	11,232	$ 2,652
.....	....	17,205	26,914	38,259	12,778
.....	....	5	.....	10,796	1,988
.....	....	.....	.....	150	32
.....	....	.....	.....	1,646	881
.....	....	6,231	11,288	30,428	7,946
.....	....	.....	.....	6,652	1,641
103,846	2,355	16,971	17,284	29,729	7,791
.....	....	.....	.....	3,664	493
.....	....	.....	33	19	11
.....	....	.....	456	7,386	1,557
2,142	43	248	571	2,330	559
.....	....	.....	25	260	89
.....	....	250	23	1,119	833
.....	....	13	4,070	29,262	14,662
(2)	(2)	15,189	8,606	[3]26,698	[3]6,526
.....	....	939	69	61,716	22,075
.....	....	.....	.....	847	150
.....	....	.....	3,392	[3]692	[3]902
150,975	2,583	26,115	38,365	78,979	24,049
(2)	(2)	.....	.....	[3]1,142	[3]100
342	48	1,684	153	27,912	7,628
(2)	(2)	14,331	236	[3]3,849	[3]1,197
3,802	79	.....	.....	205	61
261,107	5,108	103,729	112,707	374,972	116,521
175,137	4,321	114,950	77,326	305,991	102,146



Annual marketed production of natural gas in the United States

wasted is attributed by the Bureau of Mines to California fields and the Texas Panhandle. Table 2 presents a summary of the official consumption statistics for the years 1924 to 1929, inclusive. Table 3 presents a comparison of natural gas produced and marketed by states for the years 1921 to 1929, inclusive.

It will be noted that increases in natural gas production were recorded by California, Colorado, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Montana, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Utah and West Virginia. Declines were recorded by Arkansas, Illinois, Indiana, Kansas and Wyoming. The greatest gain in production was recorded by Texas, a net gain for the year of 162,938,000,000 cubic feet, making it the largest natural gas producing state. California production increased 95,999,000,000 cubic feet over 1928, but the total for the year was exceeded by Oklahoma which occupied second place, with California third. Continued expansion of distribution facilities during 1929 was mainly responsible for the remarkable gains recorded by the larger producing states, although it will be noted that several of the smaller producing states showed marked gains resulting from the completion of additional pipe line facilities.

A remarkable phase of last year's natural gas developments was the addition of four states to the list of excess producers contributing to the needs of other states that require more gas than they produce. During 1928 Louisiana, Oklahoma, West Virginia and Wyoming, produced more gas than their respective home requirements. Last year, eight states, Kentucky, Montana, New Mexico, Oklahoma, Texas, West Virginia, and Wyoming, were credited with production in excess of home requirements. This situation is favorable to the continued expansion of natural gas distribution facilities since it is obvious that future demands will necessitate additional new sources of supply. Those who have followed the course of the natural gas industry will remember that back in 1924 only three states contributed excess natural gas supply, and then West Virginia was the only state with sufficient gas production to supply neighboring states after having provided for its own needs.

TABLE 3
NATURAL GAS PRODUCED IN THE UNITED STATES AND DELIVERED TO CONSUMERS, BY STATES, 1921—1929
(Millions of Cubic Feet)

	1921	1922	1923	1924	1925	1926	1927	1928	1929
Arkansas	4,260	9,700	24,215	36,616	41,878	43,566	30,450	20,235	19,928
California	75,942	84,580	131,434	189,692	187,789	204,915	212,364	246,215	342,214
Colorado	A	A	A	A	A	A	A	A	2,787
Illinois	2,646	3,383	4,049	4,072	4,165	3,808	3,741	3,051	2,983
Indiana	1,066	947	880	998	1,168	901	1,124	1,290	1,012
Kansas	15,717	20,289	30,913	25,580	26,917	38,095	42,646	45,644	38,469
Kentucky	4,820	5,872	11,953	12,875	10,770	10,410	10,206	15,383	27,588
Louisiana	58,004	70,267	112,031	160,945	152,620	157,423	186,961	227,821	261,138
Michigan	....	....	.....	.....	.....	.....	.....	A	4,526
Mississippi	....	....	.....	.....	.....	.....	.....	A	90
Missouri	A	A	A	A	A	A	A	A	324
Montana	336	486	1,470	1,071	1,496	2,283	4,253	6,277	9,659
New Mexico	....	....	.....	.....	.....	.....	.....	A	3,054
New York	6,583	6,947	6,497	6,196	6,210	7,027	5,908	7,224	8,387
Ohio	47,412	51,481	53,812	47,396	43,235	47,363	51,381	56,341	57,936
Oklahoma	124,058	140,631	203,082	214,452	249,285	286,421	326,864	320,861	357,893
Pennsylvania	86,144	101,276	112,562	105,863	101,632	107,089	105,709	99,466	101,951
South Dakota	....	....	.....	.....	.....	.....	A	A	99
Tennessee	....	....	A	A	A	A	A	A	25
Texas	44,504	47,945	74,535	107,247	134,872	175,392	254,063	301,990	464,928
Utah	....	....	.....	.....	.....	.....	A	A	693
West Virginia	174,921	195,288	203,867	182,285	180,345	180,223	162,375	163,018	167,333
Wyoming	15,608	23,427	35,523	46,036	45,539	46,567	43,582	47,490	44,648
Other	31	27	153	197	650	1,536	3,801	5,833	28
Total	662,052	762,546	1,006,976	1,141,521	1,188,571	1,313,019	1,445,428	1,568,139	1,917,693

A—Included with "Other".

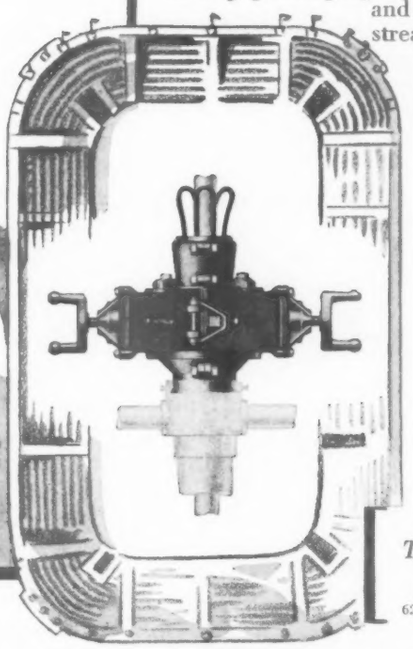
CONTROL

MEANS AS MUCH TO A FLOWING WELL AS IT DOES TO THE PIGSKIN PASSER

Obtain it with the GUIBERSON Control Head Packer

Nothing is more dangerous than a wild pass in a football game. It stands a good chance of being intercepted by the enemy, who may get away for a touchdown. If it escapes interception, it runs the ends needlessly and loses a down and yardage. If it occurs often, it dissipates the strength of the team and breaks the fighting morale. A flowing well, running haphazardly through the casing, can be described almost in the same terms.

The Guiberson Control Head Packer confines the oil to the tubing, prolonging the flow by conserving the gas pressure and making it lift the oil in a steady, even stream -- with maximum production. The gravity of the oil is preserved by maintaining the surface pressure in the well. Ample passage for oil and gas allows the Guiberson Control Head Packer to run in against the heaviest flows.



TO PACK FLOWING WELLS:

The Guiberson Tubing Oil Saver, set on top of the casing, confines the flow while the Control Head Packer is being run. Its rubbers permit passage of tubing collars and it can be opened wide to admit Packer or Tubing Catcher. Recommended for use with the Control Head Packer.

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Markets-- Production-- Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

Production and Prices Continue To Recede

CONSTANT revisions downward in crude oil production schedules are having a pronounced effect upon the production curve but the industry is still faced with a decidedly unfavorable market situation. It seems as though the very instrument, proration, by which the industry hopes to combat a crumbling crude and refined oil market, is reacting toward even lower prices. As a matter of fact, there is nothing wrong with proration; it offers the only safe course to economic stability. The real trouble lies with the inequalities of normal takings from various districts by the pipe line companies. The situation at Van is a conspicuous example of the inequalities in Texas proration. In fact, the granting of a request for an additional 22,500 barrels of oil from the Van area to Pure Oil Company presents a situation that cannot fail to arouse severe criticism from many quarters.

With all of the effort to bring Texas production down to a sane level, operators in the Panhandle, North Texas and West Central Texas are still confronted with distress oil that is forced upon the market below posted prices because of dire necessity, lacking a justified market outlet. On the other hand, the Van area will be allowed to increase production 22,500 barrels and work an added burden upon other districts that have already been curtailed drastically. Whether or not the increased allowance in the Van area is justified from the standpoint of actual market requirements at posted prices is entirely aside from the real issue of the industry of Texas. The fact remains that if there is a market for an additional 22,500 barrels of Texas crude, that amount should have been equally divided among operators of the Panhandle, North Texas and West Central Texas, where the market situation is becoming more and more acute. If that quantity of oil was taken from these three districts and if the 22,500 barrels of Van oil was left in the ground for a reasonably longer period of time, there is every reason to believe that the industry in Texas would soon emerge from the present market situation that now portends only a dismal outlook.

State Total Revision Necessary

Since provision for an increase in allowable production at Van was not made in the central proration committee's recommendation to the railroad commission, it is apparent that the state total will require revision on December 15, January 1, January 15 and February 15, to include the allowances effective on those dates. Otherwise, the difference would have to be absorbed by other districts of the state. Until December 15, therefore, Texas production will be limited to 680,000 barrels, after which it will probably be revised upward until the total of 22,500 barrels maximum additional allowance at Van increases the state total to 702,500 barrels daily.

Daily average crude production of the United States for the week ending November 22 aggregated 2,281,850 barrels, a further decline of 22,700 barrels daily. Practically all of the decline was recorded by Oklahoma, where production was off 22,150 barrels daily. Kansas and Texas, outside of Gulf Coast also registered declines of 2450 barrels and 8300 barrels, respectively. The latter declines were offset, however, by gains in the Gulf Coast, North Louisiana, Eastern States, Rocky Mountain States and California. The gain in California amounted to 5400 barrels, due to continued larger production at Playa del Rey and a sharp gain in the Elwood field.

Revision of state allowables has somewhat altered the production status, although it will be noted that even with a reduction of 84,000 barrels a day in total allowable output, the national production total for last week was still 926 barrels below the adjusted production limit. The revision in California allowable production charges that state with an excess of 62,200 barrels, whereas Oklahoma's actual production is now 60,800 barrels below the limit of 545,000 barrels daily. Texas allowable production of 730,000 barrels, prior to November 25, compared with actual production of last week indicates an excess of 4800 barrels daily. The new allowable figure of 680,000 barrels, effective immediately, will undoubtedly create an excess for the time being, until the various districts are able to make necessary downward adjustments in production schedules.

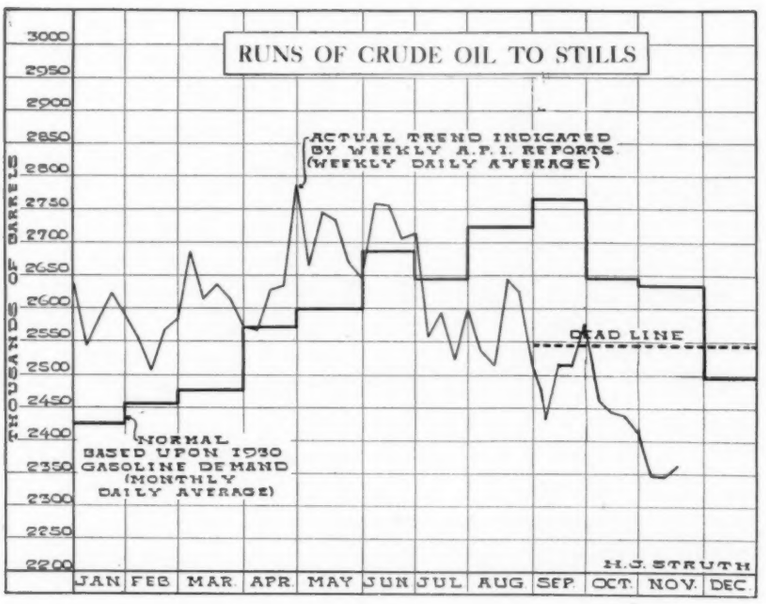
Following are the more important production changes recorded last week, according to figures received from the American Petroleum Institute:

		Barrels
Gray County	Increase	3,100
Hutchinson County	Decrease	1,600
Yates	Increase	1,800
Darst Creek	Decrease	8,950
East Earlsboro	Decrease	1,100
East Little River	Decrease	1,350
Konowa	Decrease	2,000
Oklahoma City	Decrease	11,650
South Earlsboro	Decrease	2,700
West Asher	Increase	3,150
Elwood-Goleta	Increase	7,300
Long Beach	Decrease	2,200
Playa del Rey	Increase	2,300
Santa Fe Springs	Decrease	2,000
Sedgwick	Decrease	2,650
East Hackberry	Increase	2,100
Smackover, Heavy	Increase	1,050

California Production 279,000 Barrels Below Last Year

Los Angeles.—Daily average crude production in California during October, according to the Pacific Coast office of The American Petroleum Institute, was 279,068 barrels less than the daily average for the same month of last year. A detailed report of production, stocks and field operations for that state shows that the daily average production of crude during October of this year amounted to 588,518 barrels, against 867,586 barrels during October, 1929. The report also shows that there was a decline in production during October of 10,959 barrels daily, while total output

MARKET SECTION



for that month was 259,747 barrels less than in September. The total quantity of crude produced during October was 18,244,053 barrels.

Total stocks of crude and all products on the Pacific Coast decreased during October to the extent of 933,467 barrels. Total stocks at the end of October amounted to 179,500,000 barrels. Stocks of refinable crude, however, showed an increase of 453,428 barrels, while heavy crude, including fuel oil, declined 1,659,385 barrels. Report of drilling operations for California shows that there were 437 wells drilling at the end of October, compared with 470 wells drilling on September 30. Both well completions and initial oil production increased during October.

Gasoline Stocks Decline 731,000 Barrels

According to the American Petroleum Institute, stocks of gasoline on hand at refineries November 22, declined 731,000 barrels from the preceding week. The total quantity reported in storage on that date amounted to 36,532,000 barrels, compared with 37,263,000 barrels on November 15. This decline bears out the contention advanced last week to the effect that ups and downs in gasoline storage are more or less effected through weather conditions, and the course prescribed for still runs seems to assure a major

CRUDE RUNS TO STILLS, GASOLINE AND GAS AND FUEL OIL STOCKS, WEEK ENDING NOVEMBER 15, 1930

(Figures in barrels of 42 gallons)

District—	Potential Daily Capacity	Potential Capacity Reporting Total	Potential Capacity Reporting Per Cent	Crude Runs to Stills Total	Crude Runs to Stills Daily Average	Crude Runs to Stills Per Cent Operated	Gasoline Stocks	Gas & Fuel Oil Stocks
East Coast	612,700	612,700	100.0	3,230,000	461,400	75.3	5,643,000	11,936,000
Appalachian	141,300	131,700	93.2	480,000	68,600	52.1	802,000	1,016,000
Indiana, Illinois, Kentucky	390,800	381,000	97.5	1,783,000	254,700	66.9	4,349,000	3,858,000
Oklahoma, Kansas, Missouri	461,100	412,200	89.4	1,858,000	265,400	64.4	2,187,000	4,615,000
Texas	809,000	743,500	91.9	3,602,000	514,600	69.2	6,752,000	10,772,000
Louisiana-Arkansas	266,600	262,000	98.3	1,148,000	164,000	62.6	1,207,000	2,054,000
Rocky Mountain	150,100	139,700	93.1	322,000	46,000	32.9	1,472,000	1,014,000
California	898,500	887,600	98.8	3,626,000	518,000	58.4	14,851,000	104,534,000
Total Week November 15	3,730,100	3,570,400	95.7	16,049,000	2,292,700	64.2	37,263,000	139,799,000
Total Week November 8	3,730,100	3,566,400	95.6	15,922,000	2,274,600	63.8	37,012,000	139,020,000
The total U. S. figures for last year, shown immediately below, are not comparable with this week's totals because of difference in percentage capacity reporting.								
Total November 16, 1929	3,678,700	3,491,600	94.9	18,591,000	2,655,900	76.1	35,298,000	*144,768,000
The Texas and Louisiana Gulf Coastal Figures Shown Below are Included above in the Totals of Their Respective Districts.								
Texas Gulf Coast	529,500	529,500	100.0	2,707,000	386,700	73.0	5,539,000	8,006,000
Louisiana Gulf Coast	147,500	147,500	100.0	759,000	108,400	73.5	973,000	1,109,000

*Final revised.

MARKET SECTION

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

	Necessary Daily Average 4th Quarter 1930	Quota Limit Prescribed to Correct Previous Excesses	Actual Daily Average Week Ending November 22, 1930	Excess
Arkansas	59,518	59,518	51,950	—7,568
California	654,034	545,000	607,200	62,200
Kansas	115,407	105,554	109,250	3,696
Louisiana	57,704	57,704	73,600	15,896
Oklahoma	653,252	545,000	484,200	—60,800
Texas	767,167	730,000	734,800	4,800
Balance of U. S.	230,000	230,000	220,850	—9,150
Total	2,537,082	2,282,776	2,281,850	—926

downward trend in gasoline stocks. As long as still runs are maintained at or below present figures, it is certain that the ultimate result will be a satisfactory decline in stored supplies of gasoline and other petroleum products.

Still runs during the week ending November 22 showed practically little change over the preceding week. The total reported to the American Petroleum Institute was 16,036,000 barrels, a daily average of about 2,291,000 barrels. During the week ending November 15, the total reported was 2,293,000 barrels. On a Bureau of Mines basis, last week's still runs total would approximate a daily average of 2,360,000 barrels. On the basis of an economic limit of 2,344,000 barrels, set by the Volunteer Committee on Petroleum Economics, last week's daily average throughput was excessive to the extent of only about 16,000 barrels a day.

California Gasoline Market Causing Trouble

Although ordinarily apart from the producing division the retail gasoline market on the Pacific Coast is causing trouble which reaches back to the well. A slight overproduction of crude is being widely distributed among refiners and gasoline in turn is finding its way to market at various prices far below the current posted levels of the majors.

A production of less than 40,000 barrels at Playa del Rey is enough to worry marketers who are holding to certain wholesale and retail prices. This oil is supposedly a poor refining crude but it has been a comparatively easy matter to treat out the sulphur. The small producers are selling their oil to various refiners who are as much interested in making a profit as in selling gasoline to retailers who will maintain regular prices. Rarely has such a small field as Playa del Rey ever caused so much trouble from a marketing standpoint in California.

Production from this field represents almost exactly the excess above the output which could be readily absorbed by the market.

Many service stations are selling gasoline at 14½ cents in the Los Angeles territory, as against a 20½ cent posted price of the majors. Just how long this difference will prevail apparently depends upon the volume established by the price cutters. The belief prevails in some circles that it would be better to reduce the price of gasoline to around 16 cents than to wink at a difference of six cents between the low price service stations and the larger companies. The smaller companies insist that they can sell their prod-

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

(Barrels of 42 gallons)

	Week Ended November 15		Week Ended November 8
AT ATLANTIC COAST PORTS—			
Baltimore	404,000		244,000
Boston	.....	"A"	.....
New York	597,000		951,000
Philadelphia	88,000		351,000
Others	126,000		122,000
Total	1,215,000		1,668,000
Daily Average	173,571		238,285
AT GULF COAST PORTS—			
Galveston District	57,000		.....
New Orleans & Baton Rouge	.....		80,000
Port Arthur & Sabine District	.....		.....
Tampa	.....		.....
Total	57,000		80,000
Daily Average	8,143		11,429
AT ALL UNITED STATES PORTS—			
Total	1,272,000		1,748,000
Daily Average	181,714		249,714
Daily Average Four Weeks Ended	234,964		258,143
Distribution of Total Imports Is As Follows:			
Crude	658,000	"A"	1,314,000
Gasoline	206,000		291,000
Gas Oil	18,000		.....
Fuel Oil	390,000		143,000
Total	1,272,000		1,748,000

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS

(Barrels of 42 gallons)

	Week Ended November 15		Week Ended November 8
AT ATLANTIC COAST PORTS—			
Baltimore	46,000		100,000
Boston	.....	"A"	135,000
New York	170,000		374,000
Philadelphia	40,000	"A"	156,000
Others	.....		.....
Total	256,000		765,000
Daily Average	36,571		109,286
AT GULF COAST PORTS—			
Total	.....		.....
Daily Average	.....		.....
AT ATLANTIC AND GULF COAST PORTS—			
Total	256,000		765,000
Daily Average	36,571		109,286
Daily Average Four Weeks Ended	64,429		74,643
Distribution of Total California Oil Receipts Is As Follows:			
Gasoline	166,000	"A"	654,000
Gas Oil	.....		64,000
Fuel Oil	90,000		44,000
Lubricants	.....		3,000
Total	256,000		765,000

"A"—Revised.

MARKET SECTION

United States Daily Average Production

1930	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
January	671,050	111,700	672,650	178,300	37,650	58,500	142,250	73,850	688,850	2,634,800	81,574,650
February	631,900	111,400	654,600	199,950	39,450	58,400	135,050	74,850	746,550	2,652,150	74,280,200
March	622,650	115,500	644,400	206,000	41,600	58,600	132,700	73,600	649,000	2,544,050	78,865,400
April	657,050	122,200	640,950	206,800	42,100	57,800	138,700	75,950	625,700	2,576,250	77,018,100
May	663,300	131,000	662,350	203,900	39,900	53,800	137,150	82,500	623,700	2,597,700	80,529,600
June	665,550	133,600	668,300	210,500	40,300	56,900	135,750	84,600	598,000	2,593,500	77,806,900
July	594,750	121,600	652,350	209,400	40,550	55,400	137,200	98,350	610,450	2,520,050	78,121,200
August	558,850	115,650	646,400	206,600	41,500	55,100	128,550	106,000	611,250	2,470,900	76,597,600
September	558,900	116,550	606,550	200,750	40,150	53,550	121,400	110,650	604,900	2,413,400	72,402,205
October	542,100	114,850	609,500	194,850	41,500	52,800	121,750	104,000	590,800	2,372,150	73,536,350
November 1	524,500	114,350	615,050	193,150	42,900	53,050	121,400	103,050	595,600	2,363,050	16,541,350
November 8	489,650	117,550	587,550	188,900	43,900	52,050	119,300	101,450	596,900	2,297,250	16,080,750
November 15	506,350	111,700	581,350	188,950	44,050	51,950	117,300	101,100	601,800	2,304,550	16,131,850
November 22	484,200	109,250	573,050	191,250	44,100	51,950	118,750	102,100	607,200	2,281,850	15,972,950
Increase	.....	.....	.....	2,300	50	.....	1,450	1,000	5,400	.....	.....
Decrease	22,150	2,450	8,300	.....	.....	.....	.....	.....	.....	22,700	158,900

TEXAS
(Outside Gulf Coast)

PANHANDLE DISTRICT

	Nov. 22	Nov. 15
Carson County	6,100	6,350
Gray County	55,600	52,500
Hutchinson County	13,550	15,150
Wheeler County	500	600
Others	300	250
Total	76,050	74,850

NORTH TEXAS

Archer County	13,500	13,500
Burkburnett	7,600	7,600
Electra	10,100	10,100
Iowa Park-KMA	4,400	4,450
Montague and Cooke Counties	9,300	9,300
Wilbarger	17,000	17,000
South Young	9,300	.....
Others	1,750	1,800
Total	72,950	63,750

WEST CENTRAL TEXAS

Brown County	5,000	5,100
Callahan County	3,000	3,100
Coleman County	2,400	2,400
Eastland-Desdemona	4,900	4,900
Jack County	2,000	2,000
Palo Pinto County	450	450
Shackelford County	5,150	5,200
Stephens County	5,400	5,400
Throckmorton County	750	750
North Young County	3,400	11,000
Others	1,750	2,000
Total	34,200	42,300

WEST TEXAS

Crane-Upton Counties	35,000	35,200
Crockett County	2,050	2,050
Ector	4,850	4,850
Howard County	27,500	28,000
Jones County	1,400	1,400
Mitchell-Scurry Counties	2,200	2,200
Pecos County	2,800	2,800
Reagan County	26,400	26,250
Winkler County	56,500	57,150
Yates	101,500	99,700
Others	6,400	6,500
Total	266,600	266,100

EAST CENTRAL TEXAS

Boggy Creek	2,250	2,400
Corsicana-Powell	5,200	5,200
Currie	300	300
Mexia	3,850	3,900
Nigger Creek	150	150
Richland	150	150
Van Zandt	27,600	27,800
Wortham	600	600
Others	200	200
Total	40,300	40,700

SOUTHWEST TEXAS

Chapman-Abbott	6,500	7,000
Dale	300	300
Darst Creek	34,300	43,250
Laredo District	13,950	14,600
Luling	9,600	9,750
Lytton Springs	750	800
Salt Flat	15,600	16,000
Somerset	1,300	1,300
Others	650	650
Total	82,950	93,650
T'tl Tex. (outside Gulf Coast)	573,050	581,350

TEXAS GULF COAST

Barbers Hill	20,700	21,150
Batson	1,100	1,100
Big Creek	3,400	3,400
Blue Ridge	1,600	1,600
Boling	900	950
Damon Mound	700	700
Esperson	2,800	2,750
Fannett	700	650
Goose Creek	4,300	4,350
Hankamar	1,900	2,100
Hull	7,900	8,100
Humble	13,400	13,300
North Dayton	800	1,150
Orange	2,050	2,050
Orchard	2,300	2,100
Pettus	8,400	8,800
Pierce Junction	9,900	10,100
Port Neches	1,500	1,600
Raccoon Bend	8,900	8,850
Refugio	27,650	27,200
Saratoga	1,200	1,200
Somerville	1,200	1,100
Sour Lake	2,100	2,100
South Liberty	2,900	3,000
Spindle Top	13,900	14,350
Sugar Land	12,000	11,950
West Columbia	5,300	4,300
Others	2,250	2,400
Total	161,750	162,400
Texas Total	734,800	743,750

OKLAHOMA

Allen	13,150	13,800
Asher	800	1,050
Blackwell	2,300	2,350
Bowlegs	14,000	14,450
Braman	2,000	2,050
Bristow Slick	12,200	12,350
Burbank	14,050	14,150
Carr City	12,550	13,200
Cromwell	6,300	6,300
Cushing	12,150	12,250
Davenport	900	900
Duncan District	7,700	7,800
Earlsboro	20,900	20,950
East Earlsboro	18,150	19,250
East Little River	10,300	11,650
East Seminole	2,100	2,250
Fox	800	800
Garber	4,350	4,400
Graham	2,800	2,850
Healdton	10,300	10,400
Hewitt	5,500	5,600
Hubbard	1,050	1,100
Konowa	14,650	16,650
Little River	23,950	24,900
Logan County	3,100	3,150
Maud	3,200	3,150
Mission	7,400	8,150
North Okmulgee	9,400	9,500
Oklahoma City	73,350	85,000
Osage (outside Burbank)	24,500	24,550
Papoose	2,300	2,300
Pearson	500	500
St. Louis	23,300	22,900
Sasakwa	5,000	4,550
Scholem Alechem	9,350	9,450
Searight	6,800	6,850
Seminole	13,750	14,350
South Earlsboro	8,850	11,550
South Okmulgee	6,100	6,250
Thomas	400	400
Tonkawa	4,950	5,000
West Asher	13,050	9,900
Wewoka	4,400	4,600
Yale Jennings	5,500	5,750
Others	46,050	47,050
Total	484,200	506,350

CALIFORNIA

Dominguez	10,000	10,000
Elwood-Goleta	40,500	33,200
Huntington Beach	28,000	28,000
Inglewood	15,300	15,300
Kettleman Hills	25,700	25,700
Long Beach	98,000	100,200
Midway-Sunset	59,500	59,500
Playa Del Rey	40,300	38,000
Santa Fe Springs	93,400	95,400
Seal Beach	18,000	18,000
Ventura Avenue	46,500	46,500
Others	132,000	132,000
Total	607,200	601,800

KANSAS

Augusta-Fox Bush	2,700	2,700
Churchill	3,400	3,450
Eldorado-Towanda	13,800	13,800
Florence-Covert	950	700
Greenwood County	17,050	17,150
Oxford	2,400	2,450
Peabody-Ebling	2,300	2,300
Rainbow Bend	1,000	1,000
Russell	2,800	3,050
Sedgwick	24,400	27,050
Voshell	7,450	6,550
Others	31,000	31,500
Total	109,250	111,700

NORTH LOUISIANA

	Nov. 22	Nov. 15
Caddo Heavy	2,800	2,750
Caddo Light	8,550	8,200
Carterville	2,350	2,350
Cotton Valley	1,850	1,850
DeSoto-Red River	2,850	2,900
Haynesville	5,250	5,250
Holly	1,000	1,100
Homer	3,350	3,350
Urania	5,300	5,300
Zwolle	9,100	9,300
Others	1,700	1,700
Total North Louisiana	44,100	44,050

LOUISIANA GULF COAST

Bayou Boullion	150	150
East Hackberry	4,000	1,900
Edgerly	400	400
Evangeline	2,000	2,000
Hackberry	900	900
Lake Barre	2,200	2,300
Lockport	4,850	4,500
Port Barre	2,250	2,500
Sorrento	50	50
Sulphur Dome	3,200	2,700
Sweetlake	1,150	1,150
Vinton	5,250	4,850
White Castle	1,050	1,050
Others	2,050	2,100
Total Louisiana Gulf Coast	29,500	26,550
Louisiana Total	73,600	70,600

ARKANSAS

Champagnolle	3,450	3,500
El Dorado	3,900	3,900
Lisbon	900	900
Nevada	1,050	1,000
Smackover Heavy	35,750	34,700
Smackover Light	4,850	4,850
Stephens	900	900
Others	1,150	2,200
Total	51,950	51,950

MOUNTAIN STATES

WYOMING

Big Muddy	2,050	2,050
Elk Basin	650	800
Grass Creek	2,100	2,150
La Barge	1,800	1,650
Lance Creek	250	250
Lost Soldier	4,600	3,050
Oregon Basin	3,100	2,500
Rock River	2,150	2,100
Salt Creek	27,150	28,100
Others	4,000	4,250
Total	47,850	46,900

MONTANA

Cat Creek	1,150	1,150
Pondera	1,200	1,200
Sunburst	2,550	2,550
Others	50	50
Total	4,950	4,950

COLORADO

Florence	450	450
Fort Collins	1,200	1,150
Moffats (Craig)	1,150	1,150
Others	1,450	1,450
Total	4,250	4,200

NEW MEXICO

Artesia	750	550
Balance Lea County	5,700	6,600
Hobbs High	36,700	36,100
Hogback	450	450
Rattlesnake	1,150	1,150
Table Mesa	100	100
Eddy	200	100
Totals	45,050	45,050
Total Mountain States	102,100	101,100

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., N. Y.)	110,000	110,000
Michigan	8,750	7,300
Total Eastern States	118,750	117,300

PRODUCTION SUMMARY

East of Rockies	1,572,550	1,611,650
Total U. S.	2,281,850	2,304,550

MARKET SECTION

uct satisfactorily if allowed to retail gasoline at prices slightly under those established by the majors. When the difference grows large enough to reduce the gallonage of the larger companies, trouble usually results.

An analysis of the crude produced from the new Weed Patch field in Kern County has revealed an oil with much more gasoline than anticipated and one which should crack easily.

Shell Oil Company has been seeking such oil to insure a future supply for cracking purposes. Kettleman Hills and Belridge could easily become menaces but both probably will be held in check by curtailment agreements and unit operations. State production will be forced downward if present plans are carried out. Part of the committees believe, however, that it would be better to bring the output down to some figure nearer the present allowable than to post a lower allowable before achieving the present objective.

Oklahoma Crude Market Shows Further Weakness

Further weakness in the Oklahoma crude oil market developed last week, through lower posted prices from independent refiners, as well as from individual deals, which have no records. Champlin Refining Company and Eason Oil Company, both of Enid, set up reduced schedules, with 87 cents a barrel as the top price for oil of 40 Baume and above. The prices posted by these concerns, effective November 17 are:

32 and above	71	cents
33 to 33.9	73	"
34 to 34.9	75	"
35 to 35.9	77	"
36 to 36.9	79	"
37 to 37.9	81	"
38 to 38.9	83	"
39 to 39.9	85	"
40 and above	87	"

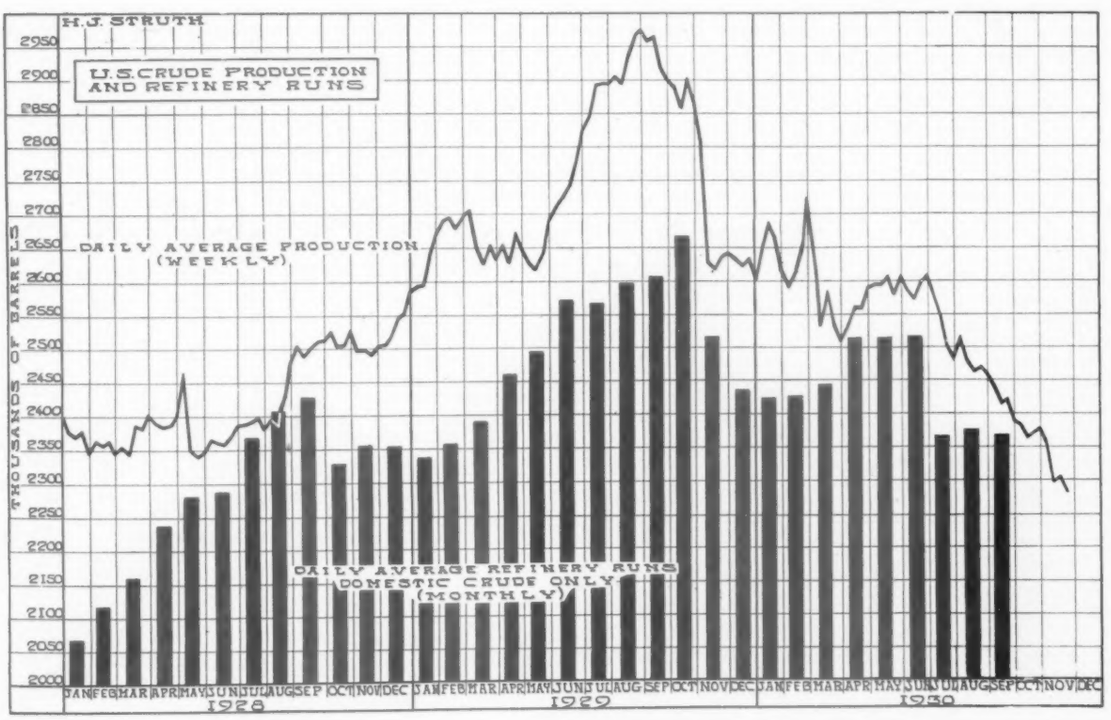
There are several other independent refining concerns paying prices below the posted prices of the major purchasers. Some of these are on schedules, while some are deals for specific amounts of oil bought at one purchase but involving no continuation of the price. It is reported that fully 45,000 barrels of Mid-Continent crude oils are moving each day at prices below those recognized as the prevailing market.

Furthermore there are numerous producers, who are willing to accept prices lower than the posted market, provided buyers can be found. In some of these cases lack of pipe lines or other shipping facilities are preventing deals.

Refined products are equally unsteady. The lowest reported price for U. S. motor gasoline is 4⅛ cents per gallon. But some of the extensive buyers say that small quantities of this grade of gasoline can be bought as low as four cents.

These low prices at refineries has brought similar isolated reductions in retail prices. Service station prices are so irregular that it seems evident that the posted prices must come down. Throughout a wide territory in the middle west there are points where gasoline can be had at 10 cents a gallon, exclusive of tax, at service stations. These conditions are so numerous that the service station and tank wagon price structures seem certain to be reduced.

Continental Oil Company will give some additional out-



MARKET SECTION

Weekly Comparisons of Permits Granted for New Wells

States—	Week Ending November 22	Previous week	This week 1929	Total this Month	This month 1929	Total this year	Total this date last year	1929 year total
Arkansas	3	..	2	8	5	100	150	159
California	..	14	15	38	71	826	1,149	1,231
Louisiana	13	11	8	39	73	893	834	903
Kansas	15	15	17	49	69	901	1,004	1,079
Oklahoma	37	49	60	133	278	2,688	3,215	3,578
Texas	122	133	184	322	729	6,704	7,983	8,697
Total	190	222	286	589	1,225	12,112	14,335	15,647

let to the Oklahoma City pool, by the construction of an eight-inch carrier, which will be joined to the existing lines at Tonkawa. Contracts for the line will be let December 3 and the line will be completed within 60 days. With two pump stations the 81 miles of line will have ultimate capacity of 20,000 barrels daily.

Simms Trades Mexia Crude

Dallas, Texas.—A crude exchange agreement, involving approximately 600,000 barrels of storage oil held in the Mexia, Texas, district by Simms Oil Company has been worked out with Magnolia Petroleum Company participating. The latter has been supplying the Dallas refinery of Simms Oil Company with Healdton, Oklahoma, crude, but this arrangement has been terminated, and will result in Magnolia Petroleum Company delivering common runs of crude from high gravity fields in Oklahoma to the Dallas plant. A like amount of crude will be delivered from Mexia storage to Magnolia Petroleum Company until the 600,000 barrels of oil has been withdrawn. Adjustments for differences in gravity and for transportation have been made by the two concerns, while in the meantime Simms Oil Company will be relieved of an undesired amount of storage oil.

Sun Stops Darst Shipments

Luling, Texas.—Sun Oil Company discontinued tank car shipments about November 15 from its producing properties in the Darst Creek field to the company's refinery at Toledo, Ohio. Freight costs on such movement involved more than the posted price of the crude, and it is reported that tank car shipments were checked because of the plant being stocked up on this particular grade of crude. Sun Oil Company is allowed to produce 3298 barrels daily from its property in the Darst Creek field, but is forced to provide its own market outlet. The company is moving about 1000 barrels daily to its storage and tanker terminals on Gulf Coast through common carrier service performed by The Texas Pipe Line Company, and is storing the remainder near the field in leased tanks.

Summarized Review of Field Results

State—	Completions This week.	Completions Last week.	Oil Wells This week.	Oil Wells Last week.	Gas Wells This week.	Gas Wells Last week.	Failures This week.	Failures Last week.	Initial Prod. This week.	Initial Prod. Last week.
Arkansas	1	3	1	1	..	..	..	2	100	23
California	21	20	19	18	..	..	2	2	14,560	9,300
Illinois	3	3	1	1	..	..	2	2	30	30
Indiana	17	4	7	1	4	2	6	1	161	1
Kansas	16	11	10	5	1	3	5	3	2,580	6,605
Kentucky	40	17	23	9	5	4	12	4	2,322	345
Louisiana	23	15	10	2	2	8	11	5	6,646	675
Michigan	11	2	3	1	1	..	7	1	450	150
Mississippi	1	..	..	..	1	..	..	..	..	.....
New Mexico	2	5	2	4	..	..	..	1	21,158	24,883
New York	4	4	4	4	..	..	..	..	32	32
Ohio	37	30	18	16	9	7	10	7	182	175
Oklahoma	50	60	29	20	9	14	12	26	98,042	125,907
Pennsylvania	54	30	42	20	10	8	2	2	112	89
Texas	81	93	41	47	2	9	38	37	37,333	18,337
West Virginia	31	10	4	..	21	8	6	2	12	.....
Alabama	..	1	..	..	..	..	..	1	..	.....
Total	392	308	214	149	65	63	113	96	183,720	186,552
Increase	84	..	65	..	2	..	17	..	..	.....
Decrease	..	..	..	..	..	..	..	..	2,832	.....

MARKET SECTION

Crude Oil Price Quotations

(Revised to November 25, 1930)

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Bradford—Alleghany district (posted by Tide Water Pipe Co., Ltd.) (Effective Nov. 13, 1930) $2.15

Penna. Grade Oil in National Transit Lines (Other Pennsylvania) (Effective, Nov. 13, 1930) 1.85

Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania) (Effective Nov. 13, 1930) 1.80

Penna. Grade Oil in Eureka Pipe Lines (West Virginia) (Effective Nov. 13, 1930) 1.70

Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.) (Effective Nov. 13, 1930) 1.45

Wayne district crude in Cumberland lines (West Virginia) (Effective July 23, 1930) 1.17

Corning Grade in Buckeye Pipe Lines (Ohio) (Effective Oct. 28, 1930)..... 1.25

Somerset Oil in Cumberland Pipe Lines (Kentucky) (Effective July 23, 1930). 1.30

Somerset Oil in Eureka Pipe Lines (Effective July 23, 1930) 1.14

Ragland Grade in Cumberland Pipe Lines (Kentucky) (Effective Jan. 9, 1929)... 0.60
*Oil run prior to July 1, 1929 is $2.10 per bbl.

(Posted by Stoll Oil Refining Company)

Oil City, Ky., oil in Stoll lines (Effective July 25, 1930) 1.35

MICHIGAN

(Posted by Dixie Oil Company)

Traverse and Dundee (Muskegon), effective April 16, 1930, same gravity and price schedule as Prairie posts in Oklahoma and Kansas, on gravity basis prior to reduction on Oct. 27, 1930.

(Posted by Pure Oil Company)

Midland, Midland County ,Aug. 21, 1930).$1.30

CENTRAL STATES FIELDS

(Posted by Ohio Oil Company)
(Effective Oct. 28, 1930)

Wooster	$1.35	Princeton	1.30
Lima	1.10	Illinois	1.30
Waterloo	1.20	Plymouth	.88
Indiana	.87	W. Kentucky	1.15

CANADIAN CRUDE

(Posted by Imperial Oil Refineries, Ltd.)
(Effective October 28, 1930)

Petrolia $1.50
Oil Springs 1.57

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Prairie Oil & Gas Co., and Stanolind Crude Oil Purchasing Company, Effective Nov. 1, 1930. Carter Oil Company Same Schedule Effective Oct. 28.

Below 29	$0.65	35-35.9	.92
29-29.9	.69	36-36.9	.95
30-30.9	.73	37-37.9	.98
31-31.9	.77	38-38.9	1.01
32-32.9	.81	39-39.9	1.04
33-33.9	.85	40 and above..	1.07
34-34.9	.89		

Magnolia Petroleum Company Effective October 28.

Below 26	.53	27-27.9	.61
26-26.9	.57	28-28.9	.65

From here to 40 and above gravity same schedule as above.

NORTH TEXAS

Posted by All Purchasers Except Magnolia Petroleum Company

Ranger, North Texas, Van, Mexia, Powell, Boggy Creek; Richland, Wortham, Lytton Springs, Currie, Moran, and Nocona crudes:

Below 29	$ .65	35-35.9	.92
29-29.9	.69	36-36.9	.95
30-30.9	.73	37-37.9	.98
31-31.9	.77	38-38.9	1.01
32-32.9	.81	39-39.9	1.04
33-33.9	.85	40 and above..	1.07
34-34.9	.89		

Magnolia Petroleum Company, Effective October 28

Below 26	.53	27-27.9	.61
26-26.9	.57	28-28.9	.65

From here to 40 and above gravity same as schedule above.

PANHANDLE

Posted by All Purchasers, Effective Oct. 28, 1930

Gray County Crude

Below 29	$ .50	29-29.9	.54

(Continued on page 58)

Crude Oil Prices at the Well

San Francisco, Cali., September 12, 1930

Effective September 15, 1930, at 7:00 A. M. the following are the current prices offered by
STANDARD OIL COMPANY OF CALIFORNIA
For Crude Oil at the Well (Except Elwood Terrace as below).
Price Per Barrel in Fields Indicated

Gravity	Signal Hill	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea Canou	Athens-Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Gravity
14-14.9	$ .70	$ .70	$ .70	$ .70	$ .70	$ .70			$ .70	$ .70	$ .70	$ .70	$ .70		$ .55	$ .55	$ .55	$ .55	$ .55	$ .55	14-14.9
15-15.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	15-15.9
16-16.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	16-16.9
17-17.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	17-17.9
18-18.9	.76	.76	.76	.76	.76	.76			.76	.76	.76	.71	.76		.55	.62	.62	.62	.62	.62	18-18.9
19-19.9	.82	.82	.82	.82	.82	.82			.82	.82	.82	.77	.82		.55	.70	.70	.70	.70	.70	19-19.9
20-20.9	.88	.88	.88	.88	.88	.88			.88	.88	.87	.83	.87			.78	.78	.78	.78	.78	20-20.9
21-21.9	.94	.94	.94	.94	.94	.94			.94	.94	.93	.90	.93	$ .92		.86	.86	.86	.86	.86	21-21.9
22-22.9	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	.98	.97	.98	.95		.94	.94	.94	.94	.94	22-22.9
23-23.9	1.07	1.07	1.07	1.07	1.07	1.07	*		1.07	1.07		1.05	1.04	1.01		1.02	1.02	1.02	1.02	1.02	23-23.9
24-24.9	1.12	1.12	1.12	1.12	1.12	1.12	$1.12		1.12	1.12		1.08	1.08	1.05		1.06	1.06	1.06	1.04	1.04	24-24.9
25-25.9	1.17	1.17	1.17	1.17	1.17	1.17	1.17		1.17	1.17		1.11	1.12	1.09		1.10	1.10	1.10	1.06	1.06	25-25.9
26-26.9	1.22	1.22	1.22	1.22	1.22	1.22	1.22		1.22	1.22		1.15	1.16	1.13		1.14	1.14	1.14	1.08	1.08	26-26.9
27-27.9	1.26	1.26	1.26	1.26	1.26	1.26	1.27		1.26	1.26		1.19	1.21	1.18		1.18	1.18	1.18	1.11	1.10	27-27.9
28-28.9	1.30	1.30	1.30	1.30	1.30	1.30	1.32		1.30	1.30		1.23	1.25	1.23		1.23	1.23	1.23	1.15		28-28.9
29-29.9	1.34	1.34	1.34	1.34		1.34	1.37			1.34		1.26	1.29	1.28		1.29	1 29	1.29	1.19		29-29.9
30-30.9	1.38	1.38	1.38	1.38		1.38	1.42			1.38		1.29	1.33	1.33		1.35	1.35	1.35	1.23		30-30.9
31-31.9	1.43	1.43	1.43	1.43		1.43	1.43	F. O. B. Ship						1.38		1 41	1.41	1.41	1.27		31-31.9
32-32.9	1.48	1.48	1.48	1.48			1.52							1.43		1.47	1.47	1.47	1.31		32-32.9
33-33.9							1.57							1.48		1.53	1.53	1.53	1.35		33-33.9
34-34.9							1.62	$1.32						1.53				1.59	1.39		34-34.9
35-35.9							1.66	1.39						1.58				1.65	1.43		35-35.9
36-36.9							1.72	1.46						1.63							36-36.9
37-37.9							1.78	1.53						1.68							37-37.9
38-38.9							1.84	1.60						1.73							38-38.9
39-39.9							1.90	1.66						1.78							39-39.9
40-40.9							1.96	1.72													40-40.9
41-41.9							2.02	1.78													41-41.9
42-42.9							2.08	1.84													42-42.9

KETTLEMAN HILLS*	
35-39.9	$1.10
40-44.9	1.20
45-45.9	1.35
50-54.9	1.50
55 and above	1.65

*Posted by Union Oil Company.

MARKET SECTION

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 57*)

30-30.9	.58	36-36.9	.80
31-31.9	.62	37-37.9	.83
32-32.9	.66	38-38.9	.86
33-33.9	.70	39-39.9	.89
34-34.9	.74	40 and above..	.92
35-35.9	.77		

Carson and Hutchinson County Crudes

Below 29	$ .45	35-35.9	.72
29-29.9	.49	36-36.9	.75
30-30.9	.53	37-37.9	.78
31-31.9	.57	38-38.9	.81
32-32.9	.61	39-39.9	.84
33-33.9	.65	40 and above ..	.87
34-34.9	.69		

WEST TEXAS

Posted by All Purchasers, Effective October 28, 1930

Winkler and Pecos County Crudes:

Below 25	$ .55	31-31.9	.69
25-25.9	.57	32-32.9	.71
26-26.9	.59	33-33.9	.73
27-27.9	.61	34-34.9	.75
28-28.9	.63	35-35.9	.77
29-29.9	.65	36 and above ..	.79
30-30.9	.67		

Crane, Upton, Crockett, Ector, Ward, Loving, Mitchell,* Howard, and Glasscock Counties, Texas, and Lea County, New Mexico crudes

Posted by All Purchasers, Effective Oct. 28, 1930

Below 25	$ .50	31-31.9	.64
25-25.9	.52	32-32.9	.66
26-26.9	.54	33-33.9	.68
27-27.9	.56	34-34.9	.70
28-28.9	.58	35-35.9	.72
29-29.9	.60	36 and above ..	.74
30-30.9	.62		

*Magnolia Petroleum Company uses Gravity scale and Coltex Refining Company pays flat price of 60 cents for Mitchell County.

GULF COAST

(Posted by Humble Oil & Refining Company, The Texas Company and Sun Company)

Gulf Coast Crude will be classified as follows in fields designated below:

Goose Creek, Hull, Boling, Liberty, Orange, Pierce Junction, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugar Land, West Columbia and Humble crudes:

"A" GRADE—All crudes conforming to the following tests:

Viscosity—Not less than 100 seconds at 100° F. Saybolt.

Sulphur—Not over .4%.

Beaume Gravity—Not over 25 at 60° F.

Cold test of distillates having a viscosity of 1000 seconds at 100° F, shall not be over 5° F.

"A" GRADE—$1.00.

"B" GRADE — Embraces all Coastal crude which does not meet the test for "A" grade crude:

Below 25	$ .75	26-26.9	.94
25-25.9	.92	27-27.9	.96
28-28.9	.98	34-34.9	1.10
29-29.9	1.00	35-35.9	1.12
30-30.9	1.02	36-36.9	1.14
31-31.9	1.04	37-37.9	1.16
32-32.9	1.06	38-38.9	1.18
33-33.9	1.08	39-39.9	1.20
		40 and above ..	1.22

Markham (The Texas Company) ..... .75

Posted by Gulf Pipe Line Company, Effective October 30, 1930

High Island	$ .75		
Grade "A"	.80		
Grade "B"			
Below 25	$ .69	33-33.9	.87
25-25.9	.71	34-34.9	.89
26-26.9	.73	35-35.9	.91
27-27.9	.75	36-36.9	.93
28-28.9	.77	37-37.9	.95
29-29.9	.79	38-38.9	.97
30-30.9	.81	39-39.9	.99
31-31.9	.83	40 and above ..	1.01
32-32.9	.85		
Jennings, La.	.80		

SOUTHWEST TEXAS

Posted by All Purchasers, Effective Oct. 28, 1930

Refugio Heavy crude, below 25 gravity.. .75
Refugio Light crude:

25-25.9	$ .92	33-33.9	1.08
26-26.9	.94	34-34.9	1.10
27-27.9	.96	35-35.9	1.12
28-28.9	.98	36-36.9	1.14
29-29.9	1.00	37-37.9	1.16
30-30.9	1.02	38-38.9	1.18
31-31.9	1.04	39-39.9	1.20
32-32.9	1.06	40 and above..	1.22

Mirando crude	$. 75
Salt Flat crude	.90
Darst Creek crude	.90
Pettus crude	1.10
Luling	.75
Corsicana, heavy	.75

Determination of quality, deductions, adjustment for temperature, etc., on oil purchased in Texas, shall be in accordance with the rules and regulations of the Texas Railroad Commission, and on oil purchased in New Mexico shall be in accordance with the rules and regulations of the Corporation Commission of New Mexico.

LOUISIANA-ARKANSAS

All Purchasers Except Magnolia Petroleum Co., Effective Oct. 29, 1930

Pine Island District, Haynesville District, Bull Bayou District, El Dorado District, Rainbow District, Cotton Valley

Below 29	$ .65	37 to 37.9	.98
29 to 29.9	.69	38 to 38.9	1.01
30 to 30.9	.73	39 to 39.9	1.04
31 to 31.9	.77	40 to 40.9	1.07
32 to 32.9	.81	41 to 41.9	1.10
33 to 33.9	.85	42 to 42.9	1.13
34 to 34.9	.89	43 to 43.9	1.16
35 to 35.9	.92	44 and above..	1.19
36 to 36.9	.95		

Urania, La.	.75
Bellevue, La.	1.00

Magnolia Petroleum Company, Effective October 30, 1930

Below 26	$ .53	27-27.9	.61
26-26.9	.57	28-28.9	.65

From here prices same as schedule above.

STEPHENS

Below 29	$ .54	31 to 31.9	.66
29 to 29.9	.58	32 and above..	.70
30 to 30.9	.62		
Smackover	.70		
El Dorado, East Field	.70		

ROCKY MOUNTAIN FIELDS

(Salt Creek prices effective April 10, 1930)

‡Salt Creek		29-29.9	$1.00
"	"	30-30.9	1.05
"	"	31-31.9	1.10
"	"	32-32.9	1.15
"	"	33-33.9	1.185
"	"	34-34.9	1.22
"	"	35-35.9	1.255
"	"	36-36.9	1.29
"	"	37 and above	1.325
Elk Basin (Effective Oct. 28, 1930)			1.25
Grass Creek light			1.25
Big Muddy			1.00
Lance Creek			1.33
Rock Creek			1.01
Mule Creek			1.20
Rex Lake			1.10
‡Osage			1.25
‡Cat Creek, Montana			1.55
Pondera			1.45
Sunburst, Montana			1.55
‡Hogback, New Mexico			1.40
Artesia, New Mexico			.75

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

STATE CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.

Texas—Two per cent of gross value.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 per cent of gross market value.

Montana—Two per cent of gross value at well.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

Washington, D. C.—Two fuel oil contracts, aggregating 745,000 barrels of grade A and grade C materials, were awarded on November 18 by the United States Navy to Magnolia Petroleum Company and Atlantic Refining Company. The latter was successful when a bid of $1.36 per barrel was made on 35,000 barrels of grade A fuel to be delivered at New London, Connecticut. Magnolia Petroleum Company was awarded contract after offering to supply 650,000 barrels of grade A fuel oil to Gulf Coast ports at 85 cents per barrel, and 60,000 barrels of grade C fuel oil at 70 cents per barrel.

ANNOUNCEMENT

PRODUCTS
and
MATERIALS

WORTH STEEL COMPANY

Plates
Sheets
Flanged and dished heads
Forged Steel Nozzles and flanges

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Seamless steel boiler tubes.

TYLER TUBE AND PIPE COMPANY

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Plain end pipe.

HARRISBURG PIPE & PIPE BENDING CO.

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Bull Plugs
Forgings
Forged Steel flanges
Gas Cylinders

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Flanged end fittings
Steel Castings

KINZBACH TOOL COMPANY

Whipstocks
Mills
Tank Gauges
Casing Shoes
Oilfield Specialties

CHAMPION RIVET COMPANY

Victor Rivets, all specifications.

Control of the company formerly known as the Harrisburg Pipe & Pipe Bending Company of Texas has been purchased from the Harrisburg Pipe & Pipe Bending Company of Harrisburg, Pa., and the company will henceforth be known as The Corbett Corporation.

In making this announcement, we avail ourselves of the opportunity to express our deep appreciation of the confidence and good will accorded us by our many friends in the past, factors which have contributed greatly to our development.

Also, it is a pleasure to assure our friends that the officers of the old company, as well as the operating and sales personnel, will remain with the new Corporation.

Further development and expansion of the business will be conducted on the basis of the same policy which governed the old company, namely, maintenance of the highest standards of excellence in products and materials, and of a high degree of personal interest in all business relations.

THE CORBETT CORPORATION

E. B. Corbett

President

Sawyer and Winter Street — Box 42 — Houston, Texas

OVER LAND *and* UNDER WATER

Three gas lines of The Southwestern Gas Co., of Tulsa, Okla., crossing the Arkansas River. These lines of Youngstown Steel Pipe were laid by Williams Bros., engineers and contractors, also of Tulsa, Okla.

STRETCHING for miles through every conceivable condition of soil and atmosphere; winding up hill and down dale, over land and under water, thousands of miles of oil and gas pipe lines offer tangible proof of the great endurance of Youngstown steel pipe. Manufactured to withstand the severe stresses of this service, made to resist extremes of soil and atmospheric corrosion, this tough, sturdy steel pipe assures long life, ease of installation, low line maintenance and the utmost protection to pipe line investments.

Youngstown tubular goods are manufactured by pipe specialists, in a range of sizes and types to meet all oil and gas industry needs. They are fabricated from the highest grade of steel to insure lasting service and conform to A. P. I. standard specifications. Experience has shown that it pays to pipe with "Youngstown," and you will find Youngstown products distributed by leading dealers and jobbers everywhere.

THE YOUNGSTOWN SHEET AND TUBE COMPANY

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YOUNGSTOWN

GALVANIZED SHEETS PROTECT ∴ ∴ SAVE WITH STEEL

Texas Crude Demand Placed At 680,000 Barrels

By H. J. STRUTH
Staff Economist

AUSTIN, Texas.—Immediate need for further curtailment of crude production in Texas is shown by the new report compiled by the Central Proration Committee and presented to the Texas Railroad Commission on November 22. A special session of the Central Proration Committee was held here November 21, at which time a final report was drafted showing nominated and estimated crude requirements by producing districts. After a careful review of reported nominations by companies and consideration of normal requirements from all sources, it was found that the total crude demand in Texas is not expected to exceed 680,238 barrels throughout the 90-day period beginning with November 27. Compared with the previous report of crude nominations presented to the commission last August, when the demand was estimated at 786,860 barrels daily, the new figure represents a reduction of 106,622 barrels a day. On the basis of actual production reported for Texas during the week ending November 15—743,750 barrels, the proposed production limit implies the need for further curtailment to the extent of 63,512 barrels.

Following is a summary of the indicated daily crude demand in Texas, as compiled by the Central Proration Committee and presented to the commission at the hearing:

Summary of Crude Demand by Districts

(Ninety-day Period Beginning November 27, 1930)

District—	Total Demand Barrels
Panhandle	64,616
North Texas	52,395
North Young County	4,850
West Central Texas	24,142
West Texas	251,377
East Central Texas	38,355
Southwest Texas	84,503
Texas Gulf Coast	160,000
Total	680,238

Details of demand by companies range from a minimum of 17 barrels a day to a maximum of 60,000 barrels a day. In the Panhandle, Humble Oil & Refining Company, The Texas Company and Phillips Petroleum Company have indicated a combined requirement of 28,000 barrels daily, while 13 other purchasing companies want 36,616 barrels. In North Texas, The Texas Company, Stanolind Crude Oil Purchasing Company and Magnolia Petroleum Company will furnish a combined outlet for 29,300 barrels daily, while 18 other companies will consume 23,095 barrels daily. The crude demand from North Young County of 4850 barrels daily is divided between nine companies, with Iowa Park Producing and Refining Company and The Texas Company taking 2250 barrels. West Central Texas crude outlet is divided among 14 purchasing companies, with a total of 17,850 barrels subscribed to by Humble Oil and Refining Company, The Texas Company and the Illinois Pipe Line Company; the balance of 6292 barrels of demand divided among 11 companies. In West Texas, Humble Oil and Refining Company, Shell Petroleum Corporation, Gulf Pipe Line Company, Illinois Pipe Line Company, Southern Pipe Line Company and Atlantic Oil Producing Company furnish a combined outlet for 202,662 barrels daily; the balance of 48,715 barrels being divided between 18 companies.

Oppose Increase at Van

Pure-Van Pipe Line Company in East Central Texas is listed as the largest outlet for crude in that district with a daily demand of 27,500 barrels, the balance of 10,855 barrels being divided between five other companies. In this connection, however, it has been proposed that Pure Oil Company, through the new Humble Pipe Line, be allowed to increase the outlet of Van to 50,000 barrels daily, production allowance to be increased to 35,000 barrels from December 15 to January 1,; to 40,000 barrels from January 1 to January 15; to 45,000 barrels from January 15 to February 15 and to 50,000 barrels daily on and after February 15, 1931. This proposal met with considerable opposition at the meeting of the Central Proration Committee, which had been thrown open to operators in the afternoon session, November 21, and created a feeling that such an increase under present conditions was unfair to operators in other sections that are being forced to effect further curtailment.

Figures were cited to show that practically all of the trouble at present had been caused through forced selling of about 19,000 barrels of distress oil within the Panhandle, North and West Central Texas areas and if a market was made available for this oil at posted prices, the industry in Texas could quickly dispose of the so-called "bootleg" problem brought about through the manufacture of cut-price gasoline from crude purchased below the posted market price. It was also pointed out that if the increase requested from the Van area by Pure Oil Company was distributed among operators in the Panhandle, North and West Central Texas districts, distress crude would disappear from the Texas markets and greater economic stability would soon prevail. While Pure Oil Company's attorney, J. A. Elkins, stated that the increased allowance will have no effect upon the market in Texas, and that it will not be sold below posted prices, many felt that this request, if granted, will in reality affect the general market situation to the extent that it will not relieve unsatisfactory conditions existing in other districts.

In Southwest Texas, Humble Oil and Refining Company, and Magnolia Petroleum Company have a combined nomination of 45,750 barrels daily; 38,753 barrels representing the balance that will be furnished an outlet by 16 other purchasing companies. The Gulf Coast outlet will be divided among 17 companies. Humble Oil and Refining Company, Sun Pipe Line Company and Gulf Pipe Line Company, having a combined nomination of 95,733 barrels, while 14 other purchasing companies will take about 65,000 barrels daily.

Want Purchaser Act Enforced

Of particular importance at the Central Proration Committee meeting was the adoption of resolutions wherein the Texas Railroad Commission was asked:

"To enforce to the letter the common purchaser act, designed to prevent discrimination by pipe line companies in the takings of oil.

"To call a conference of pipe line operators and ask them to provide ratable takings in the three sections comprising the Texas Panhandle, North Texas, and West Central Texas.

"To adopt a rule placing a maximum production of 50 barrels a day on new wells for a period of 90 days from the date of completion of the well."

(*Continued on page* 88)

PIPE LINE ACTIVITIES

NEWS ◆ PERSONAL ◆ TECHNICAL ◆ ENGINEERING

Prairie Crude Shipments Make Big Drop and End Is Not Yet

Tulsa, Okla.—Heavy losses in crude sales sustained in recent months by Prairie Oil & Gas Company are confirmed by sharp reductions in crude deliveries reported by Prairie Pipe Line Company. The latter averaged 97,285 barrels daily in October, as compared to a daily average of 141,553 barrels maintained during September, or a decline of 44,268 barrels. In October, 1929, Prairie Pipe Line Company's deliveries averaged 207,392 barrels daily, or more than double the volume during the same month this year.

Further declines in crude sales and shipments are in store for the Prairie interests before the close of 1930, and because of anticipation of same, Prairie Oil & Gas Company has been forced to discontinue all crude purchases in some sections, and apply more stringent proration restrictions in others.

Prairie Oil & Gas Company will be adversely affected by opening of Ajax Pipe Line Company's double 10-inch carrier, which extends from the Glenn pool, near Tulsa, to Wood River, early in December. The company has been deprived of its only market outlet for Texas Panhandle crude takings through the cancellation of crude contract by Standard Oil Company of New Jersey. Another hard blow is being dealt the Prairie interests by the Vacuum Oil Company having ordered deliveries discontinued on about 250,000 barrels of crude daily. Prairie interests have been filling the latter contract largely from Ranger, Texas, paraffin base crudes, and making deliveries into tankers on Gulf Coast. Magnolia Petroleum Company is reported to have gained Vacuum Oil Company's contract due to the pending merger between the latter and Standard Oil Company of New York. In anticipation of this additional market outlet, Magnolia Petroleum Company has recently increased its crude purchases in the Oklahoma City field, as the latter is yielding crude that compares favorably with the so-called Ranger bright stock material.

Movement Through Ajax Pipe Line Start Early in December

Tulsa, Okla.—Completion of welding work on the Ajax Pipe Line Company's double 10-inch trunk line, which extends from the Glenn Pool district, near Tulsa, to a point near Wood River, Illinois, will be made before the close of the present week. Construction work on the nine main-line stations has progressed sufficiently to permit the starting of crude shipments early in December by the group of companies that are sponsoring the project.

The Ajax Pipe Line Company was organized last May primarily as a transportation unit of Standard Oil Company of New Jersey, but substantial interests have since been acquired by Ohio Oil Company, Pure Oil Company and others. This new Mid-Continent carrier will connect with the system of Illinois Pipe Line Company at Wood River, and the latter will relay the crude to refining points on the Buckeye Pipe Line Company, Imperial Pipe Line Company, Ltd., and Tuscarora Pipe Line Company. Oklahoma Pipe Line Company, Standard of New Jersey subsidiary, will be the most important feeder for the Ajax Pipe Line Company, and as a result of this new hook-up will substantially increase its crude shipments from Oklahoma and Kansas fields at the expense of other major carriers.

Construction work on the Ajax Pipe Line Company be-

(Continued on page 86)

PIPE LINE MEN IN THE WEEK'S NEWS

R. S. ELLISON

Last week named president of Stanolind Pipe Line Company, also president of Stanolind Crude Oil Purchasing Company.

J. R. MANION

Resigns from Stanolind Pipe Line Company to set up organization for Sinclair Consolidated Oil Corporation.

Blank-Stoller

H. S. AUSTIN

President Ajax Pipe Line Company, sailed to Iraq to advise on construction of line to Mediterranean.

J. R. DOLES

Superintendent of Ajax Pipe Line Company, will direct company's operations while Mr. Austin is in Iraq.

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PERSONAL MENTION-MEN YOU KNOW

George H. Jaques, who recently was promoted to vice-president in charge of operations for Midwest Refining Company, is a field man of thorough training and has been with his company since 1917 when he started as superintendent of field machine shops. In 1926 he was made superintendent of equipment, in 1928, general superintendent of production. His most recent change followed transfer of Robert S. Ellison to Tulsa where he heads Stanolind Crude Oil Purchasing Company and Stanolind Pipe Line Company. (All Standard Oil Company (Indiana) subsidiaries.)

GEORGE H. JAQUES
chief of operations for Midwest Refining Company

Captain A. A. Nichoson, head of the education department of The Texas Company, New York City, conducted an efficiency meeting for members of The Texas Pipe Line Company organization in Central West Texas on November 23 at Ranger. The meeting was arranged by J. B. Haden, district superintendent of the latter company, with district employes of the producing and sales department of The Texas Company also present.

J. E. McCready, who brought the first string of tools into Muskogee County and drilled the first well in the old Muskogee pool, died in El Paso, Texas, on Friday, November 21. Mr. McCready's activities in Oklahoma date from 1902 until 1922, when he left to make his residence in Long Beach, California.

W. E. Hart, vice-president and treasurer of Richfield Oil Company of California, has resigned, effective December 1.

C. E. Lee, superintendent of production of the Gulf Coast Division for Shell Petroleum Corporation, has returned to Houston from an inspection trip of the Oklahoma City field.

Dr. R. D. Reed, chief geologist for The Texas Company of California, recently returned to Los Angeles after an extended trip through Texas.

Ralph W. Walsh has been elected a director and vice-president in charge of sales for Richfield Oil Company of California, going west from New York where he has held a similar position with Richfield Oil Company of New York which he joined when that company purchased his interest in Walburn Petroleum Company two years ago. Sales have mounted under his supervision in the east, and in the new connection he will direct an economy program under which the company proposes to save over $12,000,000 per year.

RALPH W. WALSH
... proposes to save $12,000,000 *per year.*

Patrick J. Quealy, one of the founders of Producers & Refiners Corporation, died at his home in Kemmerer, Wyoming, November 17. He was 73 years old, and was one of the most prominent men in coal mining, oil development, and Democratic political circles in the state. He was founder of the town in which he made his home and in which he died.

R. L. Marek, associate petroleum engineer, and C. P. Bowie, supervising engineer, of the U. S. Bureau of Mines, have returned to San Francisco, following an extended tour of Mid-Continent fields.

H. P. Grimm, umpire for most of California and member of the committee appointed early in the year by Secretary of the Interior Wilbur to determine a sound economical course to pursue, has returned to Los Angeles from Chicago.

Chas. F. Meyer, New York City, president Standard Oil Company of New York, visited with officials of Magnolia Petroleum Company at Dallas several days last week while enroute from the Chicago meeting to California, where an inspection tour will be made of properties of General Petroleum Corporation, which is also a subsidiary. Accompanying Mr. Meyer were: A. F. Corwin, director and head of the production division; Frederick Ewing, domestic sales manager; and W. H. Correa, manager lubricating sales, all of New York; and E. R. Rich, vice-president, and R. G. Bowman, assistant general sales manager, both with General Petroleum Corporation, Los Angeles.

P. N. Guthrie, Jr., was elected president of Reading Iron Company, A. J. Maloney, chairman of the board of directors, announced following a meeting of the board November 18. Mr. Guthrie has been serving the company as vice president in charge of sales, and succeeds Leon E. Thomas, who resigned the presidency July 31. Reading Iron Company is a wholly owned subsidiary of the Philadelphia and Reading Coal and Iron Company, and was founded in 1836. It owns and operates the Keystone Blast Furnaces, the Roe Puddle Mills, Tube Works and Skelp Mills and the Scott Foundry at Reading, Pennsylvania, the Montour Bar Mills at Danville, and a mill and nail factory at Pottstown, Pennsylvania.

P. N. GUTHRIE, JR.

PERSONAL GLIMPSES OF
California Field Engineers

J. R. HARMAN

J. R. HARMAN, *petroleum engineer for Shell Oil Company at Santa Fe Springs, has been with the organization for eight years. He finished Purdue University in* 1919 *and is a member of the Acacia fraternity.*

A. M. HAZZARD, *petroleum Engineer for Shell Oil Company at Long Beach, has held his present position for seven years. He graduated from the University of California in* 1917 *and is a member of the Phi Kappa Psi fraternity. During his connection with the company, the Long Beach field has been developed from the shallow zones to the* 8000*-foot level and has been one of the most interesting in California from an engineering standpoint.*

F. L. CAMPBELL, *petroleum engineer and resident geologist for Richfield Oil Company at Long Beach, is a graduate of the University of California, class of* 1922, *and a member of the Sigma Alpha Epsilon fraternity. He has been with the company for two years, having spent four years with the State Mining Bureau prior to his present connection.*

H. E. WINTER, *petroleum engineer for Union Oil Company at Santa Fe Springs, has been with the company for nine years, four of which have been at Santa Fe Springs. He graduated from the University of Washington, Class of* 1916, *and is a member of the Alpha Delta Phi fraternity.*

A. M. HAZZARD

F. L. CAMPBELL

H. E. WINTER

PERSONAL GLIMPSES OF
California Field Engineers

QUAY S. DIVEN

McDOWELL GRAVES, *petroleum engineer for Associated Oil Company at Santa Fe Springs, probably has as intimate knowledge of drilling conditions in this field as any other man, having spent seven years in his present capacity. When he first went to Santa Fe Springs, development of the Bell zone was at its height, and the Meyer sand was just getting under way. Depth of production has increased from 4000 feet to more than 8000 feet during the period and engineering has made rapid progress. Graves has been largely responsible for development of the present type of acid bottle container used throughout California. He graduated from the Michigan College of Mines in 1895 and is a member of the Alpha Delta Phi fraternity.*

QUAY S. DIVEN, *petroleum engineer for Associated Oil Company in the Culver City district, which includes the Potrero, Inglewood and Rosecrans fields, completed the geological course at the University of California in 1921. He has been with the company for five years and has made an extensive study of the causes of drilling crooked holes. Diven is a member of the Theta Tau fraternity.*

J. L. PORTER, *petroleum engineer for Rio Grande Oil Company at Long Beach for two years, attended the University of Washington before coming to California. He has been transferred to Montana for special work. Porter was connected with Pacific Eastern Oil Company for about two years, prior to joining the field engineering staff of Rio Grande Oil Company.*

DONALD K. WEAVER, *petroleum engineer for The Texas Company at Santa Fe Springs, joined the California Petroleum Company's field forces in 1926 and his experienced gained for him a position with The Texas Company, following purchase of the California organization. After his graduation from Stanford University in 1921, he started with Standard Oil Company of California and worked with this company for five years. Weaver was a star high jumper at college and was an outstanding performer in the coast conference for four years. He is a member of the Phi Kappa Psi fraternity.*

J. L. PORTER

McDOWELL GRAVES

DONALD K. WEAVER

HUMPHREY'S 5 BARREL WELL JUMPS TO 40 BBLS.

5224 foot hole at Barbers Hill, Texas, after treatment by Morris Well Cleaning Process, responds with 700% increase.

PRODUCERS INTEREST KEEN

Widespread interest in the Morris Well Cleaning Process indicated by numerous inquiries from producers over nation

A production increase of 35 barrels of oil, representing a 700% jump, was gauged by the Humphreys Oil Corporation, Houston, Texas, from its Kirby C-2 after treatment by the Morris Well Cleaning Process Saturday, November 15. The well, before treatment, was making 5 barrels of oil and 10 barrels of water. After treatment, it produced 40 barrels of oil and 80 barrels of water. The well is 5224 feet deep, and has sixteen feet of wire wrapped screen set.

This substantial increase in production was obtained at a cost much less than would have been involved in cutting out the old screen and setting new . Moreover, the production time lost was considerably less. It is typical of what is being done for pumping wells throughout the Gulf Coast and Mid-Continent by this remarkable new process of cleanin both the screen and the producing formation or sand.

Producers' Interest Keen

Since the Company's first announcement of its process, and the unusual results obtained, widespread interest has been displayed by producers in all sections of the nation. From Ohio to Montana, and from Canada to the Gulf Coast, inquiries in large numbers have reached the Company's office, evidencing the pronounced need for a low-cost, safe, assured method of cleaning both well screens and clogged producing formations.

One Day Treatment

In the average case, a well can be treated in one day by the Morris Well Cleaning Process. The cleaning device is run into the hole on the tubing, does its work immediately, and is pulled out intact on the tubing. The well is then ready to be put on the beam.

A minimum of producing time is lost; a minimum of labor and material cost is involved; results are quick.

No Cleanout Necessary on Open Hole Jobs

In hard formation, open-hole wells, no cleanout job is necessary after treatment by the Morris Well Cleaning Process. This saves days of production time, as well as days of running tools and bailer.

Sands Not Glazed

The Morris Process does not glaze or vitrify the sands in open holes in hard formations, as in the case of nitroglycerine or other high explosives which generate tremendous heat. Instead, it opens and cleans the pores of the formation, and makes it possible for fluid in the formation to drain freely to the well.

Full data on the Morris Well Cleaning Process, together with prices and any special information desired, will gladly be forwarded on request. It is quick, safe, low-cost and effective. Use the attached coupon, or write, wire or 'phone.

MAIL THIS COUPON *for* FULL DATA AND PRICES

THE MORRIS COMPANY,
Box 4176, Houston, Texas.

Gentlemen:—Please forward, without obligation, complete information and data on the Morris Well Cleaning Process.

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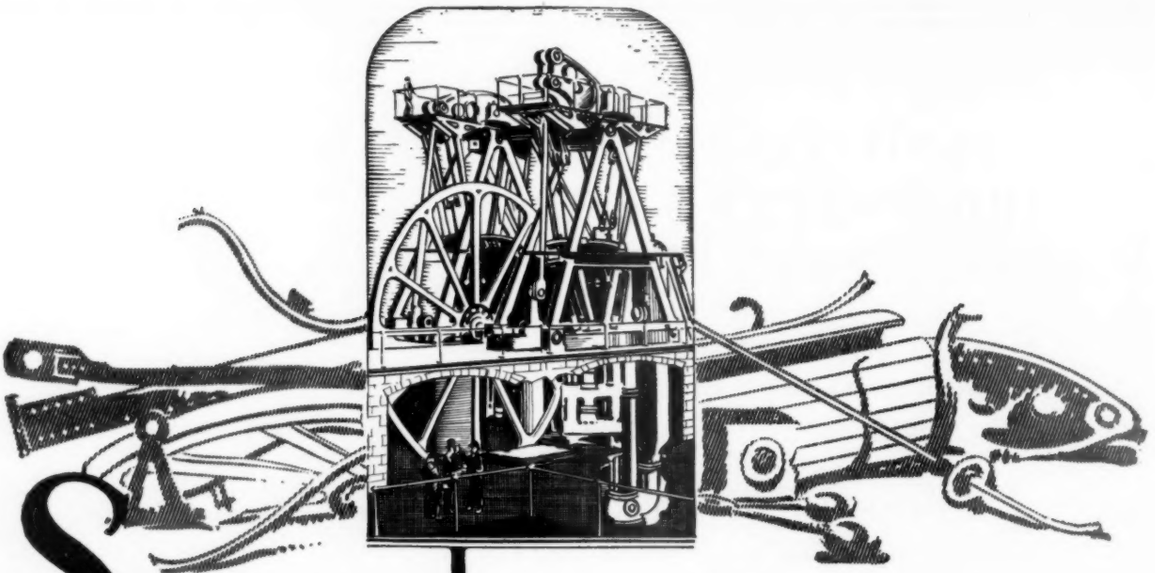

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How many obsolescent machines are there in your plant... machines that are rapidly growing out of date... machines that can not keep up with today's demands in speed, production, precision, low operating charges ... machines that are eating up your profits ... machines that are sapping the very life blood of industry?

If you could reduce your power costs 20% with modernized machinery, wouldn't it pay you to scrap the obsolescent friction-ridden power wasters? Timken Bearings are doing just that in many types of equipment.

If you could save 80 to 90% of your lubrication costs, wouldn't it be worth your while to do away with machines that need so much more lubricant? In most types of machinery, Timken Bearings regularly effect such lubricating economies.

If you could increase the productive time of your machinery by eliminating involuntary shut-downs for bearing replacements, wouldn't it pay you to discard undependable equipment? Timken Bearings make all types of machines more dependable in even the hardest kinds of service.

If you could produce more accurate work in less time with fewer rejects, wouldn't you have a strong incentive to bring your equipment in line with modern developments? It is being done by Timken Bearings in all types of precision machinery.

If you could cut your maintenance costs 80 to 90%, wouldn't it be good business to throw out machinery that costs so much more for upkeep? Timken Bearings are minimizing maintenance in machines of all kinds.

When you consider that all of these potential benefits are available to you in modern "Timken Bearing Equipped" machinery, there isn't much room left for argument. With this thought in mind, it will pay you to check up on all of your mechanical equipment, remembering that there is *only* one combination that meets every modern anti-friction requirement—the exclusive combination of Timken tapered construction, Timken positively aligned rolls and Timken-made steel.

THE TIMKEN ROLLER BEARING CO., CANTON, OHIO

TIMKEN *Tapered Roller* **BEARINGS**

News From California Fields

BRAD MILLS, ***Staff Representative, Los Angeles, California***

Consider Plan to Cut California Allowable Further

LOS ANGELES.—A plan to reduce California's allowable to some figure well below the present 540,000-barrel allotment is being considered, but with an actual production in excess of 600,000 barrels, opinions differ as to the wisdom of lowering the allowable before the present objective is attained. It is conceded that if the 540,000-barrel mark can be reached, there will be no necessity for lowering the present allowable. Dropping the allotment to achieve a further reduction is in a way an admission that the allowable can not be reached, but the blame certainly should not be placed on the shoulders of the advisory committee that is working to bring the state output down to a point well below consumption.

The chief reasons for the excess above the 540,000-barrel allotment are the unobtainable curtailment at Santa Fe Springs and Long Beach, the excess at Kettleman Hills and the failure of conservation at Playa del Rey. The settled fields of the state are carrying their full share of the burden and some time ago signified their willingness to make still deeper cuts.

Santa Fe Springs is producing some more than its allotment, but there is a doubt as to whether it is as dangerous as pictured. At least two large producing companies have shut in a large number of producing wells, so it is evident that the field could produce considerably above its present output. Rumors that the field could produce little, if any, more than the actual output are incorrect, but it is known that schemes have been worked which made the shut-in production appear much larger than it really was. Many small companies probably could produce little more oil than their daily gauge charts are showing.

There is little argument concerning the excess at Kettleman Hills. Where only four wells should be flowing under the provisions of the curtailment agreement, eight wells are actually on production and the daily average for the field is far more than twice the proper total. The four producers on fee land are flowing more than 17,000 barrels of very light oil, a production which is enough to trouble the crude market. For some reason, fee land on the flanks was not expected to lead to trouble.

Organization two weeks ago of the Kettleman Hills North Dome Association, a form of corporation which will cooperate with Standard Oil Company of California in a two-unit plan of development for the field, appeared the beginning of the final step to hold this light oil district in check. Secretary of Interior Wilbur has expressed satisfaction over the progress of the plan and has promised full aid of the government. Both the huge gas waste and the possibility of flooding the market with light oil have caused the Secretary of the Interior much worry and he has taken a personal part in every move to reach an agreement on the form of field development to be pursued.

A drive to obtain signatures of Playa del Rey operators has netted the curtailment committee names which represent about three-fourths of the field production, but with 10 producers holding out, immediate hope for definite action is not held. About 60 operators have signed the agreement, but two or three larger operators and seven small companies claim not to be interested in the course taken by the conservation committee.

The natural desire of the holdouts to get the maximum production without outside interference seems to have won over the need for a posted price and stabilized production.

Some curtailment plan probably will be placed in effect, regardless of the number of holdouts after the canvass is completed. The companies flatly refusing to participate probably will be ignored, much as was done at Santa Fe Springs.

Complete Well in Deep Zone At Playa del Rey

LOS ANGELES.—Playa del Rey not only held its own during the week, but with the completion of one good deep zone producer and several smaller wells managed to show a slightly higher average for the period than during the previous week. While original estimates of the peak flow for the field probably will not be out of line, the advent of the shallow zone and a slower decline than anticipated from the first 100 completions may combine to keep the field in the interesting class for some time after it will have been due to be forgotten. The deep zone has been a disappointment, but for some uncanny reason the shallow zone appeared on the scene to offset the failure of the deeper sand. The recent completion of a fair well in the deep zone should not be regarded as an indication that this sand will take a turn for the better. The newest producer is not offset in the deep zone by another well and a large production for a short time is not out of order.

One faction has contended that the field would not exceed a daily production of 30,000 barrels; another has argued that a production of 75,000 barrels would be obtained. Right now it looks as if both sides will be wrong and a peak of not more than 50,000 barrels. The field may turn downward at any time and predictions as to the peak yield are hazardous.

When Alamitos Heights (Seal Beach) was being developed, a production of about 50,000 barrels was obtained quickly. Just when the climb was best, the field reversed itself and dropped to 30,000 barrels within a few weeks. Conditions at Playa del Rey are not necessarily like those that obtained at Alamitos Heights, but certainly both are townlot areas and a large number of wells in one field will bring about a decline as in any other, when the supply of new oil fails to offset the natural decline from an overdeveloped acreage.

Average initial production of shallow zone completions has been low and it is surprising that production has climbed steadily with the aid of small wells only. The average for the entire field has been perhaps less than 1000 barrels. The nature of development makes an accurate report on the total initial production out of the question. Several wells completed with initial flows of 1000 barrels have been reported as 2000-barrel producers, while pro-

ducers making more water than oil have been rated higher than the combined yield of both. Promoters in many instances have succeeded in getting only small wells but have reported large ones.

Even with its many faults, the field is producing around 40,000 barrels daily and will be a market factor much longer than many geologists admit. The shallow zone and the large number of completions during a short period were not considered by the average engineer who volunteered to predict the peak.

Treasure Oil Company's Number 1, completed in the deep zone at 6000 feet, was the best well of the week, increasing its flow to around 2000 barrels. Completed as the only deep producer in the immediate district, the action of the well may easily be explained. Gas production is less than 1,000,000 cubic feet and such a large flow probably will not be maintained from only 120 feet of sand.

Most of the wells are stopping in the shallow zone and only more favorable developments in the deep sand will cause a revival of interest in this zone.

No Completions Recorded in Long Beach Field

Long Beach, Calif.—No outstanding completions were recorded in the Long Beach field during the week, in contrast to a long line of good wells finished during previous weeks. The dull period does not necessarily indicate that the average initial production of future completions will drop sharply, but it seems to point to smaller wells in the Los Cerritos district, where the 7500-foot zone accounted for several large wells during October.

Early completions in this extension showed a high gas pressure but it required only a few wells to reduce the gas volume. The first producers showed no water and the jinx which has pursued deep development in this section seemed to have been routed. More recent completions have shown more water, but it can not be said that future development will be entirely unprofitable because of excess water. Many wells are being deepened to the 7500-foot level and completion of the next few producers should indicate something of the fate in store for those starting last for deeper levels.

The south slope should account for many good producers and undoubtedly this section of the field will prove profitable to operators who have not over-developed their leases in the deep zones. Too much credit should not be given these operators, however, since the lack of drilling was due more to the belief on their part that the accumulation south of the fault was poor, rather than to a national desire to withhold drilling operations.

Convict Two for Improper Well Abandonments

Bakersfield, Calif.—Abandonment of wells in a manner which will damage producing sands in California oil fields has led to the conviction of two men in the township court at Taft and bringing to trial of two contractors on the same charge. C. A. Kierulff and A. B. Jenks of North American Oil Consolidated were sentenced to three years each in the Kern County jail but sentences were suspended, pending repairs to abandoned wells which might cause trouble. Cecil Owens and Gil Applegate, contractors, are facing charges similar to those on which Kierulff and Jenks were convicted. It was claimed by the State Supervisor of Oil and Gas that the defendants were instrumental in causing the abandonment of one or more wells in a manner which would allow water to enter the oil zones.

Significance of Weed Patch Discovery Still Unknown

BAKERSFIELD, Calif.—The importance of Shell Oil Company's recent discovery of a new heavy oil field in the Weed Patch district, about eight miles southeast of Bakersfield and 4½ miles south of Edison, is difficult to determine but indications point to a field on the order of Fruitvale, which is roughly in line with the newest producing district. The natural excitement and pride which accompany the opening of a new field were present following the discovery of oil in commercial quantities in the Weed Patch area, but it will require additional development to reveal the significance of the latest addition to Kern County's producing districts.

The discovery well, Porter-Day 1, is located on Section 29-30-29 and started flowing at the rate of 1000 barrels per day but actually increased its production to 1100 barrels of 21.4 gravity oil during the first 24-hour period. Completed at a depth of 5962 feet and with 8⅝-inch casing cemented at 5790 feet, the well is flowing from a much greater level than the average completion along the east side of the San Joaquin Valley. The hole was cleaned out to 5910 feet and the well was tested from open hole below the final shutoff.

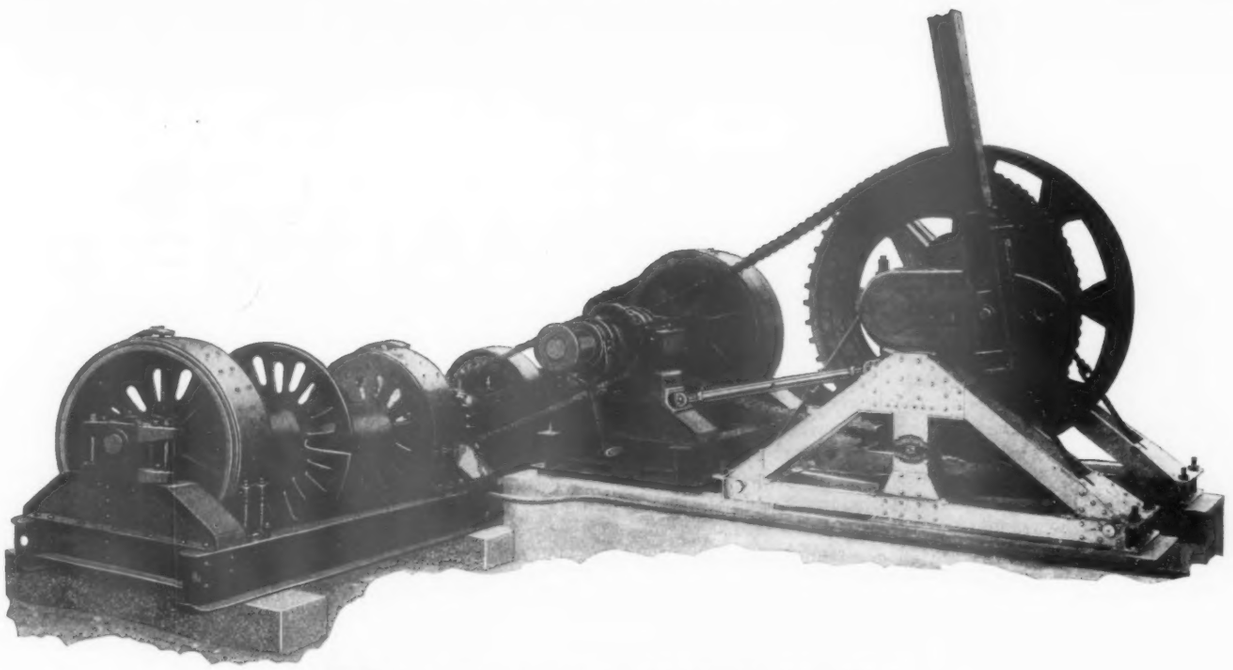
Although Porter-Day was the first test in the immediate district to reach such a depth, the producing formation probably should be compared with that found at shallower depths nearer the fringe of the valley. Located in the valley bed and several miles from surface indications which are generally used by geologists in mapping structures, the discovery is a distinct achievement for Shell Oil Company's geological department. Many wells had been drilled here and there in the valley, with particular attention having been paid to the Edison and Union Avenue districts, a short distance to the northeast and north of the discovery well. It is only natural that the producing sand should be found at a much greater depth than in the Fruitvale and Kern Front field, which almost skirt the valley edge. Picking a structure which proved productive in such a location is an accomplishment which deserves recognition.

Porter-Day 1 was tested three times, each test at different levels, before commercial production was obtained. The original production test was made at 4965 feet, but the well failed to respond. After drilling out the cement below the casing, only a trace of oil and gas was found along with a larger flow of water. A second production test was made at 5370 feet and a flow of 175 barrels obtained, along with half as much water. It was evident after this test that deepening of the well and shutting off of the top water should result in a better showing. The success of the final test at 5962 feet resulted in the opening of a new medium-grade oil field which may rival Kern Front in extent and productivity.

Shell Controls Acreage

Shell Oil Company controls most of the acreage near the discovery well, but the field may take an unexpected turn to allow several operators in the development at a later date. The size of the structure can not be determined from surface indications.

The new field resulted from the success of at least one other operator in proving that oil exists in the bed of the valley and from Shell Oil Company's own geological calculations. Both ordinary and geophysical methods were employed in locating the field, which would have failed to



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interest the average California company as late as five years ago.

Western Gulf Oil Company very nearly developed commercial production in the Union Avenue district three years ago, an area a few miles northwest of Weed Patch. Failing in this effort, the company promptly moved a short distance to the northwest and opened the Fruitvale field. Both structures are in line with the Weed Patch field and are located in the valley bed. This company's pioneering changed the geological map of parts of Kern County and forced operators to accept the theory that oil may be found a good distance from the fringe of the valley.

Shell Oil Company profited from the experiences of Western Gulf Oil Company and continued wildcatting along the line established by the latter. Weed Patch is far enough out in the valley to warrant the heavy fill and production was not expected at the shallow depths which prevail along the valley fringe. Undoubtedly the same forces which were responsible for accumulation along the upthrows and structures skirting the valley edge to the north and west also accounted for the trapping in the Weed Patch district.

An analysis of the oil showed good lubricating qualities and a low gasoline content, but the crude will be valuable for fuel oil. It should refine easily and the gasoline recovery probably will be better than originally thought.

Gas production ran unusually low, averaging less than 500,000 cubic feet per day during the three-day test. The tubing pressure was 150 pounds and the casing pressure 900 pounds with a three-fourths-inch bean.

Field development will be conservative, Shell Oil Company being more desirous of insuring a steady future production than of building up a large potential flow.

The discovery again throws attention toward the valley and proves the fallacy of the old theory that commercial production can not be developed a considerable distance from the valley fringe.

Terra Bella District Activity Shows Decline

Bakersfield, Calif.—Predictions a few months ago in these columns to the effect that the miniature drilling campaign in the Terra Bella district would come to no good end are apparently proving correct, with only six of the more than 20 wells started now active. The "discovery" well never produced satisfactorily and it was largely through home town enthusiasm that small operators rushed in to try their hand at development of a very shallow district.

Several years ago a similar drilling campaign was carried out near Porterville and singularly enough it was a well very much like the semi-completion of last summer which started activity. A fair grade of oil is known to exist over a considerable area but streaks of water sand are so laminated with the oil strata that a water shutoff is practically impossible. Loyalty to a community and the belief that oil should be developed around 1000 feet spurred many small operators on to increased activity.

Several abandonments have been recorded and more than a dozen wells are idle. Two or three wells have produced some oil on production tests but their action was only enough to prevent shutting down of several wells which probably do not have a chance at commercial production. Talk of a refinery seems premature, since little oil has been developed with which to operate a plant of this kind. Granite beds are found near the center of drilling operations.

North Belridge Activity Increases

Bakersfield, Calif.—Discovery that the Temblor zone contains oil in the North Belridge field has led to extensive leasing activity over a wide area west of the Lost Hills field and about midway between the Devil's Den and North Belridge districts. Most of the leases obtained during recent weeks lie roughly in line with the field along the west side of the San Joaquin valley, but activity in the vicinity of the Lost Hills field has been noted. Union Oil Company, Associated Oil Company and Standard Oil Company have been among operators acquiring additional holdings in the district. Associated Oil Company has leased more than 900 acres in various sections in Township 26 south and Range 19 east and is considering a test on the holdings. Standard Oil Company recently obtained leases on more than 400 acres in Sections 30- and 32-25-19. Union Oil Company leased nearly 3000 acres in Sections 16-, 23-, 26-, 27-, 34- and 35-26-19, but made no definite announcement concerning drilling plans.

Elwood Operators to Limit Production

Santa Barbara, Calif.—Building up a larger potential at Elwood seems out of line with efforts to lower state production, and operators in this field have agreed to limit field operations to the smallest possible number of drilling wells. Pacific Western Oil Company has completed foundations for three additional tideland wells, but probably will not drill all of these now. Barnsdall Oil Company and Rio Grande Oil Company, joint operators are gradually suspending operations in the field, following a successful program of more than two years. Ocean drilling is necessarily limited and it would require only a limited time to complete operations outside the mean high tide line. Plans are under way to drill considerably farther than has been attempted before and gradual creeping out may result in a longer development program than originally anticipated. Several wells have been completed with flows in excess of 10,000 barrels, at least two wells having broken state records since the early development of Santa Fe Springs and Long Beach.

Elwood Wildcat Holds Interest

Santa Barbara, Calif.—Bolsa Chica Oil Corporation is drilling in gray shale at 3636 feet in Augur Permit 191-1, an ocean test off Coal Oil Point and a short distance from the Elwood field. This well has become one of the most interesting wildcats in California and the outcome of the test will affect activity, one way or the other, along the tidelands of Ventura and Santa Barbara County. Starting out in formations which showed tar and a small quantity of gas, the well has not cored strata which could be correlated definitely with those found at Elwood, although indications point to the Vaqueros at around 3800 feet. By building a pier out into the Pacific Ocean, it was possible to locate the well nearly on top of the structure. Geologizing was done by boat and diver. It was possible, however, to lean over the edge of large rowboats and work out much of the geology of the subterranean structure. When the light was ideal, it was possible to follow the shale reefs fairly well in the shallow water.

New Mexico Meeting December 6

Artesia, N. M.—There will be an annual meeting of the New Mexico Oil Men's Protective Association held in Artesia on December 6. New state officers will be elected, and members of the executive committee and the advisory board will be appointed.

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Oklahoma--Kansas Field Notes

FLOYD L. SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Oklahoma and Kansas Proration Meets Postponed to December

OKLAHOMA CITY.—Hearing before the corporation commission held Monday and Tuesday, November 24 and 25, regarding proposal to change the Oklahoma City proration from a time basis to percentage of potential, was continued until December 15, when operators will submit additional information. Seven companies opposed the plan and 15 voted for it. Definite action will probably be announced by January 1, when the present proration agreement expires.

Wichita, Kansas.—The proration committee for Kansas met here Tuesday, November 25 and appointed a separate committee of three to investigate pipe line conditions and report back on December 3. The Central Committee includes Lee Scott, Vickers Petroleum Company, chairman; A. L. Derby, Derby Oil Company; Ralph Pryor, Pryor and Lockhart; Fred Haskell, Empire Companies; and R. B. Roark, Shell Petroleum Corporation. The committee of three includes Lockhart of Prayor and Lockhart; Shaffer of Empire Companies and Ritchie of Derby Oil Company.

The committee hopes to adopt a marginal plan similar to the Oklahoma system.

Oklahoma City Runs 103,000 Barrels Daily

OKLAHOMA CITY.—Daily outlet for the Oklahoma City pool was approximately 103,000 barrels daily during the past week. This figure will be temporarily reduced by Prairie Oil & Gas Company's action in reducing takings from approximately 15,000 barrels daily to 3000 barrels. With a large number of wells underproduced and evenly produced wells allowed to flow four hours out of every 12 days, it was estimated that a pipe line outlet of 103,000 barrels daily would be required to completely relieve the storage situation by the middle of February, 1931. Prairie Oil & Gas Company's action will be offset in part by the new outlet to be given through Continental Oil Company's new eight-inch line to be completed early in February.

The most important completion of the week was Phillips Petroleum Company's King 1, NW NE SW Section 10-11n-3w, which produced 5410 barrels in 2½ hours from the Wilcox sand. Total depth is 6495 feet. This is the first completion by a new separation method especially designed for bringing in wells in the townlot areas where much damage is done by allowing wells to clean themselves into the air. One distinct improvement over any other method heretofore used was the running of a line to the company's gasoline plant and conducting the flow of gas to the plant instead of blowing it into the air through risers.

Mid-Kansas Oil & Gas Company's Ball 1, NW NW NE Section 19-12n-1w, east offset to the discovery well in the Nocoma Park area north of the Oklahoma City pool, will be plugged and abandoned at a total depth of 6235 feet. The discovery well has been producing for more than a year and is now offset on the north and on the east by dry holes and one test one-half mile southwest was abandoned with nothing showing.

Continental Oil Company abandoned its Sudik 4, NE NE NE Section 6-10n-2w, after drilling to 6955 feet where it encountered 4500 feet of salt water and a small show of oil. It is a south offset to Sinclair Oil & Gas Company's Vencl 16, SEc Section 31-11n-2w, which flowed 38,214 barrels in 25 hours from 6585 feet. This is the fourth failure for the south end of the pool and two other wells, now drilling, will probably be added to the list within a short time.

Sinclair Oil & Gas Company's School Land 67, well 6, SW NE SE Section 36-11n-3w, is being plugged back to test at 5830 feet after drilling several hundred feet below the point where production should have been found. Same company's number 7, NE NW SE Section 36-11n-3w, northwest offset to number 6, is the deepest drilling well in the field being bottomed at 7384 feet. It will be plugged back and tested in several upper horizons.

Announce 23 Locations for Kansas During Week

Wichita, Kansas.—Severe wind and rain storms, additional proration measures, and announcement of withdrawal of purchasers in some Kansas areas, failed to halt activities in the state during the past week. A total of 23 new locations were announced, McPherson County leading with nine, and Cowley County runner-up with four.

The Eastborough pool, which enjoyed an unrestricted period for several months while other new Kansas pools were being prorated, is now being curtailed by outlet and by agreement of several operators to restrain from drilling unnecessary wells. There are now 31 completed producers, four locations, seven drilling wells. Derby Oil Company's E. B. Rimel 2, NEc Section 30-27s-2e, and Fisher and Laucks' Trustee 7, SE SE SE Section 19-27s-2e, have been abandoned after being drilled to 3420 feet and 3280 feet, respectively.

Ritz Pool Gets 3324-Barrel Well in Viola Lime

Wichita, Kansas. — Mid-Kansas Oil & Gas Company's Garret 1, SWc NE Section 30-19s-1w, approximately 2½ miles northeast of the Ritz pool in McPherson County, gauged 3324 barrels during 24 hours when tested last week. It was completed early in November for 235 barrels in one hour and 45 minutes on the swab. Production is coming from pay in the Viola lime between 3407 and 3414 feet. Shell Petroleum Corporation has started operations on the

west offset located in the SEc NW Section 30-19s-1w. The Texas Company's Munn 5, NEc Section 12-20s-2w, had top of the chat at 2921 feet and produced 375 barrels the first three hours with no water showing; total depth is 2960 feet.

Noble Drilling Company's Zerger 1, NW NE SE Section 16-21s-3w, one-half mile south of production in the Voshell pool, had a show of oil in coring between 3380 and 3385 feet and will set casing to test. It is located on a core drilled block.

Muth Brothers' Byers 1, NEc NW Section 21-19s-9w, Rice County, encountered an estimated 3,000,000 cubic feet of gas between 2000 and 2002 feet. An attempt to kill the flow was unsuccessful and operators are now underreaming the 10-inch casing to set below the gas producing formation. United Petroleum Company's Wellman 1, NEc Section 29-21s-9w, had top of the lime at 3420 feet and a small show of oil at 3437 feet. It is shut down to run 5 3/16-inch casing.

Tatums Pool's Largest Well Completed for 2468 Barrels

Tulsa.—Magnolia Petroleum Company's Mose Dickerson 1, SW SE NE Section 24-1s-3w, a completion of the past week, is one of the largest wells yet to be completed. Initial production was 2468 barrels during the first 24 hours from a series of sands between 1935 and 2100 feet. The south offset, owned by the same company, recently missed the usual productive series and was abandoned after being drilled to a total depth of 4240 feet.

The largest well in the field was Trevelyn Oil Company's Mitchell 1, SW NW SE Section 24-1s-3w, three locations diagonally southwest from the Dickerson 2. It produced 2645 barrels, initially, from sands between 2284 and 2455 feet and had 99 feet of solid sand between 2356 and 2455 feet.

Carter Oil Company and Cox-Hammon's James Hooks 1, NW SE NE, north offset to the Dickerson 2, was completed for 1222 barrels during the first 17 hours, making it a 1725-barrel well for the full 24-hour period. Production is coming from a series of sands between 1910 and 2072 feet. These were the only completions during the week. Two new wells are starting in the south end of the extension. The Texas Company has started drilling on its Eaves 5, NW SE SW Section 24-1s-3w, south offset to C. L. Anderson's Eaves 7, which is waiting on cement to set on the eight-inch casing at 2327 feet. Westheimer and Daube are completing the derrick on their Westheimer 1, NE NE NW Section 25-1s-3w, one location south of production.

Magnolia Petroleum Company apparently has a failure on its Joseph Weiss 1, SW SE SW Section 19-1s-3w, on the southeast edge of the pool. It is drilling below 2930 feet after missing production in the upper sands.

White Point Well to Be Tested

Houston.—Saxet Oil Company has cored an additional 10-foot thickness of sand in Rachal 17, oil and gas producer in the center of the White Point gas field, San Patrico County, and early this week was preparing to reset screen for a test at that lower level, the bottom of the hole now being at 4902 feet. This well came in November 6 as a gas producer from sand logged from 4878 to 4892 feet, and registered pressure of 2100 pounds, but a few days later it began yielding oil at the rate of 25 to 100 barrels daily. Nine and five-eighths inch casing is cemented at 4876 feet.

Discovery South of St. Louis Pool Attracts Little Attention

Tulsa. — Robison, Hicks and Phillips Petroleum Company's Crouch 1, NW SW Section 5-6n-5e, discovery well approximately 1½ miles south of production in the St. Louis pool is attracting but little attention as compared with other Wilcox and Simpson discoveries in the Greater Seminole area.

Top of the Viola was at 4089 feet, the Simpson Dense at 4149 feet, Simpson Dolomite at 4225 feet and top of the pay at 4266 feet in Simpson lime. Total depth is 4272 feet, six feet in the pay. It was estimated at 2,000,000 feet of gas and 50 barrels of oil per hour as it flowed into the pits for 4½ hours but gauged only 140 barrels in 12 hours and was cutting a little over one per cent b.s. and water.

Latest gauge was 110 barrels of oil in two hours on the swab and the water had increased to 25 barrels during the same period. It is not known whether all of the water is coming from the zone between 4256 and 4266 feet where a show of water was encountered or whether it is partly bottom water. The oil has a slight sulphur odor.

Wanette Pool Extended East

Tulsa.—Deep Rock Oil Corporation's Gibson 4, SE SW NE Section 23-6n-3e, extended production one location east in the Wannette pool. The first 24-hour gauge was 2700 barrels coming from 25 feet of sand, topped at 3380 feet. Total depth is 3406 feet, one foot through the sand. Approximately one mile southwest of the pool, Prairie Oil & Gas Company's Ball 1, NW SW SE Section 27-6n-3e, swabbed 75 barrels in seven hours from a sand topped at 3555 feet and drilled to 3564 feet. It is an east offset to Westheimer and Daube's Johnson 1, which was completed as a small producer several months ago. Top of the sand in the Johnson well was reported at minus 2578 feet, making it 24 feet structurally lower than the Ball, the datum for which was 2554. The new well is apparently small but it is important because of the fact that it indicates the structural high to be located to the east of the Westheimer and Daube well. This may prompt considerable drilling in Section 26 although the two wells along the north line of the section have been small.

Harper County Well Deepest in Oklahoma

Tulsa.—Empire Oil & Refining Company's Bruce 1, CNE SW Section 12-25n-20w, southwestern Oklahoma, is now drilling below 7275 feet, making it the deepest drilling well in Oklahoma. Bruce 1 is located in southeastern Harper County, approximately 25 miles southeast of Sinclair Oil & Gas Company's L. E. Howell, which is now producing about 50 barrels of gasoline and 15,000,000 cubic feet of gas from a sand believed to be between 5370 and 5425 feet. It was drilled to a total depth of 8583 feet and plugged back by stages to 5425 feet.

Approximately 25 miles northeast of the Empire well, Sinclair Oil & Gas Company's Share 1, CE½ NE SW Section 33-27n-16w, Woods County, has been plugged back to 3700 feet and will be given another shot. It was drilled to a depth of 7280 feet, where nothing but water was encountered. Sands from 4827 to 4877 feet and 4690 to 4740 feet, were shot with 100 quarts and 90 quarts, respectively, without showing.

North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Fifteen Tests Around Sullivan Well Nearing Decision

AMARILLO, Texas.—Fifteen operations within a mile radius of the prolific Sullivan ranch well in western Gray County are beginning to reach decisive depths as to whether any of the group will repeat the performance of the semi-wildcat discovery well, which registered an initial yield of 10,000 barrels of 42.7 gravity oil and heavy gas production at 2990 feet. Two nearby tests are believed to have been eliminated as possible sources of big production, and it is now generally conceded that the area will be spotted even though a few of the approaching completions yield attractive producers. J. T. Harrell and others' of Wichita Falls (was Taconian Oil Company) discovery well on the Sullivan land was credited with a potential output of 4800 barrels daily on November 15 proration gauge, and earned a daily allowance of 2262 barrels. This well earned an allowance of 4706 barrels daily during the first period in November through having a potential of 9792 barrels at the beginning of the month. The well has experienced considerable trouble with paraffin, and such may be responsible for the sharp drop in production, rather than depletion.

Empire Gas & Fuel Company's Sullivan 1, an east offset to the above well, missed the expected oil and gas horizon, as previously reported, and early this week developed a small show of oil at 3135-40 feet. Drilling was under way below 3155 feet November 24. The Texas Company's W. J. Brown 3, located a short distance due north of the heavy producer, encountered only a small show of gas at 2935-40 feet, and at last reports was drilling in dry hole at 3075 feet. Magnolia Petroleum Company's Latham 1, two locations due west of the Sullivan well, is logging key formations about 20 feet higher on structure, but is having trouble with hole at 2955 feet, with about 17,000,000 cubic feet of dry gas from above. The latter has found the lime formation exceedingly hard, and at times could only make about six inches of hole per bit. Latham 2 has drilled cement plug after landing 8¼-inch pipe and standardizing at 2479 feet.

Phillips Petroleum Company's A. Barrett 1, located a short distance northwest of the well that has given the Panhandle its most active drilling campaign in recent months for a single area, is drilling below 2820 feet, and Barrett 2 is drilling cement plug after landing 8¼-inch pipe and changing from rotary to cable tools at 2416 feet. Skelly Oil Company's Heitholt 1 is milling on pin at 2918 feet. H. H. Sanders, Amarillo, and others' Sullivan 1 has been shut down at 2240 feet because of the disappointing showing made by Empire Gas & Fuel Company's Sullivan 1, but the former's Sullivan 2 is drilling below 2520 feet. Empire Gas & Fuel Company's Cantrell 1, located in the southeast corner of Section 136, encountered 30,000,000 cubic feet of dry gas from broken lime at 2630-3010 feet, and has temporarily shut down at the latter depth.

Withdrawal of Prairie Oil & Gas Company as a crude purchaser in the Panhandle district effective November 27 will probably force a reduction of proration allowance of 10,000 barrels or more daily. The district was assigned a maximum quota of 69,799 barrels during the November 16-30 period. The latest proration figures released by Umpire H. J. Corcoran credit the district with an estimated potential of 123,930 barrels daily from 1994 pumping and flowing wells. These figures include 174 wells rated at a combined potential of 7564 barrels daily that do not have a pipe line connection, or market outlet. Hutchinson County has 133 non-connected wells rated at 2594 barrels daily, while Gray County ranks second with a combined potential of 3886 barrels daily from 31 wells not served by transportation facilities. Unsuccessful efforts have been made recently to serve these wells, and the number will be greatly increased when Prairie Oil & Gas Company discontinues buying, as the latter is connected to about 115 separate leases in the four principal oil counties.

Gas Yield is Reduced in Big Lake Deep Wells

SAN ANGELO, Texas.—Substantial reduction in the gas yield of the seven record depth wells in the Big Lake field has been accomplished by the two operating companies in an effort to comply with the Texas Railroad Commission's recent order to curb gas waste, or close in the wells. Running of tubing in one well was completed late last week, and work was nearing completion on a second producer that is being equipped with a combination string of tubing early this week. The deep wells produced 13,991 barrels 58 gravity oil and 118,020,000 cubic feet of gas during the 24 hour period ending 7 a. m. November 24, with a ratio of 8435 cubic feet of gas per barrel of oil. One week previous the wells were producing 8926 cubic feet per barrel.

Hazardous work involved in handling these wells was forcibly illustrated early last week when Group One Oil Corporation's (Continental Oil Company) University 3-B, was shut-in for one hour and five minutes preparatory to running of tubing. During this brief period the well built up a rock pressure of 3200 pounds, and ice formed on the master gate and other fittings. The combined efforts of 11 workmen were needed to open the frozen valve. Considerable speculation has followed as to whether these record depth wells could be shutin for any appreciable period without danger of the extreme cold crystalizing the heavy fittings. University 3-B had been equipped with 182 joints of tubing on the morning of November 24, and during the preceding 24-hour period produced 1750 barrels of oil and 18,400,000 cubic feet of gas against 200 pounds back pressure, with a total depth of 8633 feet.

Group One Oil Corporation's University 2-B, which is flowing 2105 barrels oil and 28,053,000 cubic feet of gas, with 700 pounds back pressure, is to be killed early this week so as to set and cement a string of seven-inch pipe near the 8000-foot level. This well has a total depth of 8489 feet, with open hole below 5914 feet. It will be equipped with three-inch tubing before being restored to production.

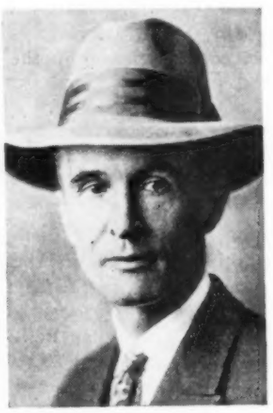
Installation of tubing in Big Lake Oil Company's University 2-C has been completed, with 276 joints in the

8603-foot hole, but difficulty has been encountered in releasing the plug, or special valve on bottom. It may become necessary to run a go-devil to displace this plug on the bottom. The well gauged 1390 barrels oil and 8,759,000 cubic feet of gas early this week, with 400 pounds back pressure.

The 246 pumping and flowing wells in the 3000 and 3500-foot horizons in the Big Lake field are yielding 11,138 barrels, making a total of 25,129 barrels daily from all wells, or about 99 barrels daily per well as an average for all producers.

Texas Independents Name Technical Advisory Committee

San Antonio, Texas.—Independent Petroleum Association of Texas, through Tom Cranfill, has appointed a technical advisory committee with Harry Pennington, San Antonio, as chairman. The other members of the committee include: E. V. Woolsey, Luling; M. V. Cheney, Coleman; Clayton W. Williams, Fort Stockton, and Floyd Dodson, San Angelo.



HARRY PENNINGTON
. . . reconcile legal and economic phases with technical

Quoting from the letter of notification sent all committee appointees by Claude C. Wild, "It is necessary that we use some of those within the organization who are technically trained and who will give technical advice on matters that may arise from time to time. We know that there will be some sort of bill introduced regarding an oil and gas ratio law in Texas. It will not be introduced by this organization, but we will be as much interested in what position to take on same as though it were sponsored by us."

The association has been advised by Mr. Pennington of his acceptance, and the fact that he has written the other appointees asking that they likewise, accept. A meeting will be called shortly to discuss the gas-oil ratio problem, together with whatever other problems the association may suggest.

According to Mr. Pennington, this committee has no parallel in any petroleum organization and it will act as an agency for reconciling legal and economic phases with technical.

Four Flowing Wells Completed in Burkett Pool

Coleman, Texas.—The Burkett pool in northwestern Coleman County has added four flowing wells with a combined potential output of about 1500 barrels of high gravity oil daily since its discovery early last September, and is rated as being one of the most important discoveries made in the district this year. Arcadia Refining Company brought in the first well from Cross cut sand at 1576-77½ feet flowing 365 barrels daily, and is erecting a 55,000-barrel steel storage tank, since pipe line connections have not been available. This company's discovery well on the Frank Golson farm is pinched to about 50 barrels daily.

Approximately 20,000 barrels of storage oil has been accumulated by the four operators and companies owning wells in the pool. Barnsdall Oil Company and Prairie Oil & Gas Company scored 300 barrel flowing wells each on their respective leases adjoining the discovery tract, while Brown and V. E. Ekholm, Strawn, Texas, scored a 700-barrel flowing well on their first try for production in the area. The pool has three tests shut down on top of the sand and a like number of tests are now drilling. Eastland Oil Company is drilling an outpost test to the northwest of the producing area, having reached a depth of 1250 feet early this week, with favorable prospects of making a producer. The latter logged the top of the Adams Branch line, a reliable marker, within four feet of the lime top of the nearest producer.

Arcadia Refining Company proposes to drill in its Golson 2, 3 and 5 upon the completion of its large storage tank, and is also negotiating for a market outlet.

Andrews County Wildcat Increases Flow Following Shots

San Angelo, Texas.—Two separate shots given Fuhrman Petroleum Corporation's wildcat oil producer on the W. T. Ford ranch in southern Andrews County during the past week stimulated production. This well has been in process of completion as an oil producer since late in September, having encountered first production in lime at 4290 feet, with slight increases recorded at intervals until sulphur water appeared at 4612 feet. The hole was bridged to 4564 feet, and shot November 18 with 150 quarts at 4385-4535 feet. The well swabbed and flowed 232 barrels during first 24 hours. A second shot of 200 quarts at 4287-4474 feet on November 21 bridged the hole, but the well flowed 115 barrels through the bridge, and cleaning out work is now in progress.

Deepening of Magnolia Petroleum Company's semi-wildcat oil and gas producer on the George Sealy ranch, Ward County, was under way early this week. The well started the new week off with a production of 60 barrels of 29.2 gravity oil from sandy lime at 3036-60 feet. Plans are to give the hard lime a light shot. A second test on the 24-section leasehold is to be started shortly by Magnolia Petroleum Company, as the above producer is expected to hold the solid block of leases, which were scheduled to expire early next year.

Gulf Production Company's Hutchings 4, located on extreme south end of the Gulf-O'Brien field, Ward County, has been completed at 3102 feet, making 60 barrels of 33.4 gravity oil and 15,613,000 cubic feet of gas from upper sections of the lime horizon.

The California Company is cleaning out after shot in upper section of Delaware sand formation on its Kloh-Rumsey 1, a wildcat in Reeves County, to deepen 75 to 100 feet. This well showed water at 4246 feet, and when plugged back to 4242 feet and shot with 150 quarts at 4202-40 feet the hole filled with fluid and some oil. The company has announced location for a second Delaware sand test on this block, having made location at C SE Section 11, block 54, T&P Ry. Survey, T-4-S.

Build Refinery at Albany, Texas

Construction is underway on Exchange Petroleum Corporation's small skimming plant located near the townsite of Albany, Texas. Equipment is being provided to handle about 200 barrels of crude daily, and arrangements have been made to obtain same from shallow wells in and near the town.

EAST CENTRAL TEXAS FIELDS

Van Increase Has Effect Upon Proration in Three States

FORT WORTH, Texas.—Substantial production increase in the Van field requested last week and approved by the Texas Railroad Commission, Tuesday, November 24, has created widespread interest among operators in Texas, Oklahoma and Kansas fields as this boost in the output of Van will displace a corresponding volume of oil from older high gravity oil areas in the above states. The commission increased production in the Van field from its present quota of 27,500 barrels to 30,000 barrels daily December 15, then additional increases are scheduled to take place at intervals until the output of 50,000 barrels daily after February 15.

Action of the commission in permitting the production increase at Van is a contradictory step in its state-wide proration program. Within recent months the commission has fostered and issued orders calling for production curtailment in given areas that were fortified with attractive crude contracts in order to bring the crude output of the state as a unit within the combined market outlet.

Pure Oil Company filed the petition for production increases at Van, but the contemplated production gains will be diverted to the 10-inch carrier to be completed into the field about December 15 by Humble Pipe Line Company. Pure Oil Company has heretofore absorbed the entire production at Van, having held contract to do so until November 1, and during the latter period of this contract the company was forced to store large quantities of crude. Pure Oil Company recently perfected arrangements to divert production from the Van field to Standard Oil Company of New Jersey subsidiaries, then Oklahoma and Kansas crudes would be available through exchange for the former's middle western refineries through Ajax Pipe Line Company's system, which is nearing completion.

Since all crude to be handled from Van field by Humble Pipe Line Company will have Baton Rouge refinery and terminals of Standard Oil Company of Louisiana as its destination there will be a sharp reduction in crude movement from Oklahoma and Kansas points through Oklahoma—Standard Pipe Line Company's system. Texas Panhandle operators have already been notified as to their share of the burden of decreased market outlet to result from an increase in Van's output, as Prairie Oil & Gas Company is discontinuing all purchases because of losing its market for Panhandle crude. The latter company has been selling its takings from Panhandle to Standard Oil Company of New Jersey for consignment to Baton Rouge, and Van oil is displacing same.

Characteristics of Van crude are not such that it would be branded as a popular product, as it carries a high kerosene content, and is entirely lacking in natural anti-knock gasoline qualities. It ranges from 35 to 38 gravity. The field is peculiariy adapted to Standard Oil Company of New Jersey's needs, as deliveries are to be made to the Baton Rouge plant with only about 200 miles transportation involved, while no outside interests will participate in the movements.

Van field would be among the last instead of the first of the major oil areas to score boosts in production allowances in the event all operators kept faith with the nation-wide oil restriction program. This field is a model for conservation of gas and underground pressures, and has no water troubles, while it is particularly adapted to continuation of a restricted production. The major portion of the field is controlled by five large companies operating under a unit plan arrangement, while the remainder of the field is also held by these concerns, except for small strip leases, bearing one well each, that are owned by individuals. The latter are adhering to proration restrictions. The field is producing an average of 174 barrels per well daily.

Three East Texas Wildcats Are Closely Watched

SHREVEPORT.—Three East Texas wildcats were watched closely during the week. G. R. Ridgeway's Parker 1, Jesse McKelvey Survey, Shelby County, Texas, had a blowout of mud in a break in sandy lime at 3015 feet, the break being under two feet of cap rock, but whether the blowout was caused by hydrostatic pressure or gas was not determined. The mud was blown through a partly opened gate valve and soon shut in. As nothing but nine-inch casing has been set, except surface pipe, it may be necessary to set another string before testing. The nine-inch was set at 1873 feet to shut off a flow of water.

In Panola County, Texas, Knott and associates' Marion Durham 1, Charles Haley Survey, which had shown oil in a lime formation resulting in 6⅝-inch casing being set at 2670 feet with total depth of 2732 feet, showed nothing when bailed to within 200 feet of bottom, Saturday, November 22, and will be drilled deeper.

Loring Oil Company's Nona Mills Lumber Company 1, James Mason Survey, Sabine County, Texas, six miles south and a mile west of the west Zwolle, Louisiana, oil field, which showed 500,000 cubic feet of gas at 4200 feet, encountered a break from 4292 to 4293 feet in a sandy lime and shale formation, which showed some oil but an attempt to make a drill stem test of the show was unsuccessful as the drill stem would not hold and the well is drilling deeper.

Van's Activity Promises Increase In Production Allowance

TYLER, Texas.—Van field is accounting for more active drilling operations than any single oil area in Texas, and is also the only field in the Southwest that is assured of a substantial increase in production allowance within the next few months. Completion of Humble Pipe Line Company's 10-inch carrier into the field about December 15 has been preceded by formal requests being made to the Texas Railroad Commission for a series of production increases beginning on the latter date, with a proration allowance of 50,000 barrels daily after February 15, 1931. Current allowance for the field is restricted to 27,500 barrels daily from 158 wells that are averaging 174 barrels daily each.

Formal petition was presented to the commission by Pure Oil Company for the increased production allowance during the state-wide proration hearing at Austin Novem-

ber 22, and the request has been taken under advisement by the three members of the commission. Acting for itself and the other four large interests in control of the prolific field, Pure Oil Company advised the commission that with the completion of a second line a market would be available for a production of 35,000 barrels daily beginning December 15. At the beginning of the new year requirements would be increased to 40,000 barrels daily, and 45,000 barrels daily on January 15, then 30 days later and thereafter the demand would be 50,000 barrels daily.

Although representatives of Pure Oil Company applied for the production increase, the oil will be absorbed largely by Standard Oil Company of New Jersey and subsidiaries. All oil handled by Humble Pipe Line Company's carrier will be dispatched to the Baton Rouge, Louisiana, refinery and terminals of Standard Oil Company of Louisiana, a subsidiary of Standard Oil Company of New Jersey, through joint communication with lines of Standard Pipe Line Company. Recent acquisition by Pure Oil Company of an interest in Ajax Pipe Line Company's Middlewestern system, has resulted in arrangements being made with Standard Oil Company of NewJersey for exchange of Oklahoma-Kansas crudes for Van oil to the extent of Pure Oil Company's Middlewestern refinery requirements.

All oil produced at Van since its discovery, October 14, 1929, has been handled by Pure Oil Company, which used field storage and tank cars prior to the completion of its 10-inch carrier to the Gulf Coast early last July. Pure Oil Company was contracted to take 25,000 barrels daily until November 1 for purchase, but has since worked out relief measures with other Van operators until the second carrier is completed. The above amount proved to be a surplus above Pure Oil Company's requirements and market outlet.

Except for three wells owned by two groups of independent operators on strip leases, the entire Van field is controlled by five companies taking part in the unit plan of development on a 5800-acre block. Proration figures released November 15 by Umpire R. E. Andrew credits the field with 158 wells, including 23 producers outside the unit, that have a combined potential yield of 312,626 barrels daily through 11/16-inch chokes. It is generally admitted that these wells are capable of producing in excess of 1,000,000 barrels of 35-38 gravity oil daily on open flow. Humble Oil & Refining Company now has eight big producers completed outside the unitized area.

Deep Test Disappoints

Deep drilling conducted by Pure Oil Company in the north section of the Van unit on its A. G. Tunnell 1 failed to offer a lower oil horizon, so the test has been abandoned at 3797 feet. The same company's R. E. Cade 1 added new territory to the southwest side of Van by flowing 90 barrels per hour via 11/16-inch choke on initial gauge from Woodbine sand at 2665-2965 feet. A north offset to this new completion has been made with W. H. Cook 2. In the same portion of the field, Pure Oil Company's G. C. Stewart 2 was completed, making 96 barrels per hour through choke at 2959 feet. Pure Oil Company's L. A. Smith 1, located outside the unit area, was completed late last week as a heavy producer at 2933 feet.

Humble Oil & Refining Company placed its third lease on production on non-unitized acreage at Van by completing its A. J. Fowler 1, flowing 346 barrels oil during first three hours through 11/16-inch choke from sand at 2529-2918 feet. This is one of the best completions scored outside the unit, and the well logged Pecan chalk at 1815-2016 feet and Austin chalk at 2276-2449 feet, with a surface elevation of 465 feet.

Van field is the most active field of any single area in the state, having 16 tests under way, or in process of completion, and five derricks and rigs credited to members of the unit plan early this week. Indications are that the field will have about 200 producing wells by middle February.

Revival of interest in the Joiner pool, Rusk County, was in prospect early this week after yielding three dry holes from the first group of tests to reach the Woodbine horizon. Stroube & Stroube's W. A. Frederick 1, located north of the lone producer, made four fourbles of oil and one of drilling fluid when given drill stem test early this week at 3506 feet. This well had drilled through broken sandy lime formation at 3560-62 feet, and was halted in Georgetown lime formation at 3614-18 feet when decision was made to take drill stem test. Plans are to set casing, with prospects of making a small well. Anticipating a prolific lease, the above operators staked locations and obtained permits to drill six tests on their 14-acre lease. H. L. Hunt et al's Bradford 1, located south of the producer, was drilling in lime at 3645 feet early this week, or about 50 feet below the total depth of Joiner et al's discovery well, which is flowing about 180 barrels daily.

Oklahoma City Gas Franchise Renewed in Election

Oklahoma City.—As a special election November 18, voters of Oklahoma City granted to Oklahoma Gas & Electric Company a renewal of the company's franchise by a substantial majority. Complete returns showed 12,914 votes cast, 11,830 of which were in favor of the franchise being granted, or a majority of nearly 11 to one. The total vote cast was approximately three times the number cast at any special election in recent years in Oklahoma City, according to J. F. Owens, vice president and general manager of the company. The results in many precincts showed as much as 100 for and none against the franchise renewal.

The franchise gives Oklahoma Gas & Electric Company the right to own, direct, maintain, extend and operate lines for the purpose of transmitting and distributing electric current for lighting, heating, power and other purposes in Oklahoma City and for the purpose of selling and distributing electric current to the city and the public generally for a period of 25 years.

Union Oil Company Renews Move to Acquire Richfield

Los Angeles.—Union Oil Company is reported again making a survey of the business and properties of Richfield Oil Company with a view of acquiring that company through an exchange of shares. Such negotiations were undertaken some time ago and stopped when Tide Water Associated Oil Company entered the picture with designs on Richfield Oil Company. These plans have not been dropped but certain obstacles having developed encourages Union Oil Company to again investigate. Advantage to Union Oil Company in the merger is acquisition of Richfield Oil Company's important marketing facilities which require more crude oil for the company's refineries than its producing division supplies; Union Oil Company on the other hand has sufficient crude for those needs and a merger would mean cancellation of Richfield Oil Company's committments to buy crude when contracts expire.

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Gulf Coast and South Texas Fields

JACK LOGAN, *Staff Representative, Houston, Texas*

Darst Production Still Above Daily Allowable

SEGUIN, Texas. — Average daily production in the Darst Creek field during the week ending 7 a. m. November 17 was 42,970 barrels, and according to the estimate of the American Petroleum Institute the average for the week ending November 22 was 34,300 barrels, a decrease brought about by stricter adherence to proration allowances. Production however, is still above the official allowable for the field, placed by the Railroad Commission of Texas at 30,000 barrels daily for the 90-day period beginning October 29.

Erratic proration in the field accounted for the record crude yield attained in October, when a daily average of 50,974 barrels was made by the 224 pumping and flowing wells. The field is credited with having produced a total of 9,480,300 barrels since its discovery by The Texas Company middle July, 1929. Louisiana Oil Refining Corporation is the principal user of tank cars for shipping crude from the field, and during October is credited with having shipped 122,950 barrels from its properties to its plant at Shreveport. Sun Oil Company is credited with shipping 48,000 barrels during the same period by tank car to its refinery at Toledo, Ohio, but such shipments were discontinued middle November. Crude stocks in the Darst Creek area amounted to 1,373,500 barrels, with approximately 698,000 barrels of empty tankage.

Accumulated production in the Salt Flat field, north of Darst Creek in Caldwell County, was increased to a total of 19,628,400 barrels at the close of October, with 483,680 barrels of this amount yielded by 333 wells during October. The field averaged 15,600 barrels daily during October, and in doing so remained within its proration allowance. Miscellaneous crude stocks in the Salt Flat and Luling district were estimated at 666,200 barrels at the close of October, with 242,800 barrels of empty tankage.

During the past week there were two well completions at Darst Creek, both by The Texas Company. Knoblock 7-A was swabbed from 2528 feet at the rate of 350 barrels of 38 gravity oil daily along with large amount of salt water, the water constituting 71 per cent of the fluid. L. Anderson 6 in the vicinity of the field's discovery well, was swabbed in at the rate of 1000 barrels daily, pipe line oil.

The Texas Company's Appling 1, outpost well seeking to obtain crevice production northeast of the main field and south of producing wells of the "Appling area," tested salt water and is drilling ahead. Buda lime was found from 2290 to 2408 feet, and at the latter depth a crevice showing oil was encountered, following which a string of pipe was cemented at 2386 feet for the above test which was unsuccessful. On November 24 the well was drilling green shale at 2460 feet.

The Texas Company early this week also had two other wells down to interesting depths. Knoblock 6-A was in Georgetown lime, which had been first encountered at 2414 feet. Pauline Roamel 4 had cemented casing at 2525 feet after drilling Edwards lime from 2532 to 2534 feet.

Magnolia Petroleum Company's Thomas Dix 15 is rigging up; Klein 5 is a rig; and Rand Miller 7 is a location. Gulf Production Company's Tadlock 5 was drilling at 2265 feet late last week. Humble Oil & Refining Company's Sue Denman 1-B was drilling at 1142 feet. H. M. Wurzbach's Fee 1, north central part of 201-acre tract in the Y. Shelton Survey, was drilling at 1200 feet.

Matagorda County Well to Be Drilled Deeper

Houston.—Empire Gas & Fuel Company was preparing early this week to drill deeper in its wildcat test, Boker 1, near Citrus Grove, Matagorda County, having succeeded in killing the well a few days earlier when it began blowing out, producing dry gas. Total depth of the hole is 6250 feet, and it is believed that the gas came from a two-foot thickness of sand from 6248 to 6250 feet. Before encountering the gas the bit had been going ahead in shale. Since there was no indication of oil with the gas, a greater thickness of the producing formation will be penetrated, in the hope of oil as well as gas, and a test will then be made. Nine-inch casing is cemented at 5383 feet.

Location of this wildcat is 25 feet east and 425 feet north of the southwest corner of Lot 14, Robbins & Middle Subdivision, J. J. Criswell Survey. It is the first well drilled on a torsion balance prospect found in 1930 by the North American Exploration Company for Cockburn Oil Corporation. As pictured through the torsion balance survey, a deep salt dome is believed to exist, and the location of the above test was made over the center of the prospective dome. Cockburn Oil Corporation made a deal with Empire Gas & Fuel Company for development of the prospect, that company acquiring operating interest in a 7000-acre block.

Three Completions Recorded at East Hackberry

Houston.—The East Hackberry field, Cameron Parish, was an outstanding contributor of new wells the past week in South Louisiana, all being relatively shallow producers for the field, and located on the southeast flank of the dome.

Yount-Lee Oil Company's Kelso Bayou State 33 was the largest of the three new wells, registering initial production of 1200 barrels net oil and 10 per cent water daily after setting three joints of screen at 2685 feet. The same company's Kelso Bayou State 35 came in flowing 200 barrels fluid, 90 per cent water daily. Both of these wells are producing a heavy oil, testing around 18 gravity. The other completion at East Hackberry was Calcasieu Oil Company's Landry 2, which came in flowing 840 barrels of 20 gravity oil daily at total depth of 2648 feet.

The above three producers are near the mouth of Kelso Bayou, where that stream empties into Calcasieu Lake, and the 2600-foot sand from which production is coming is a relatively new producing horizon for the field. Before it was discovered production was limited to a 3900-4000-foot sand found farther westward along the south flank of the dome.

Complete Three Wells in Deep Sand At Refugio

Houston.—The 6500-foot sand on the east side of Refugio field furnished three new oil wells during the past week, while another test seeking production from that horizon was a failure.

Independent Oil & Gas Company's Rose Lambert 1 came in flowing 450 barrels of 43 gravity oil daily at 6461 feet. Moody-Seagraves Producing Company's O'Connor 1, a workover, began flowing 150 barrels of oil, and showing 2200 pounds pressure, after 20 feet of screen had been set at 6453 feet. L. L. Smith's Powers 1, Block 85, was the other deep producer, yielding 425 barrels of oil daily through a 3/16-inch and a one-quarter inch choke, and registering 2000 pounds pressure, the bottom of the well being at 6459 feet. The abandonment was Saxet Oil Company's Clint Heard 12, total depth of which was 6614 feet.

Another completion for Refugio was Ed. Price's Mission River 2, which came in for 150 barrels daily at 3665 feet.

Duval County Wildcat Still Flowing 195 Barrels Daily

Houston.—Duval County Ranch Company 1, the jointly owned wildcat producer of S. R. C. Oil Company and Vacuum Oil Company in Section 297, northwestern Duval County, is still flowing around 195 barrels daily, pinched in. Production, testing 20.6 gravity, is from sand at 1730 to 1736 feet.

The Texas Company has moved in a rig to offset the producer 625 feet to the east with its Fee 1. Location of the well is 150 feet east and 150 feet south of the northwest corner out of 160-acre fee tract in Section 297, G. C. & S. F. railroad survey.

S. R. C. Oil Company and Vacuum Oil Company have abandoned their Duval County Ranch Company 2, at 1906 feet, having failed to find the sand encountered in the above producer, although number 2 was located only 575 feet west and 600 feet south of number 1.

Vacuum Oil Company late last week was ready to begin drilling its wildcat, Duval County Ranch Company A-1, located 1580 feet west and 2160 feet north of the south line of Section 280, that location being about six miles southwest of the wildcat producer and on the same fault.

Crown Central Petroleum is Bought By Blaustein Interests

Houston.—Control of Crown Central Petroleum Corporation, which operates a refinery on the Houston Ship Channel near Pasadena, has been acquired by the Louis and Jacob Blaustein interests of Baltimore through purchase of stock of the company.

Aside from the refinery the properties involved include docks, bunkering facilities and pipe lines. The capacity of the refinery is around 10,000 barrels of crude oil daily.

The Blaustein interests also control the American Oil Company, and that concern in the past has constituted an important part of the gasoline and lubricating oil market outlet for Crown Central Petroleum Corporation.

Louis Blaustein will become chairman of the board of Crown Central Petroleum Corporation under the new ownership, but W. A. Williams, president and M. C. Ehler, vice-president, will continue in those capacities. Other officers are: James T. Bowles, secretary; Jacob Blaustein, treasurer; and J. A. Thistlewaite, assistant secretary and treasurer.

The board of directors of the Crown Central Petroleum Corporation under the new organization includes: Louis Blaustein, who is also president of the American Oil Company; W. A. Williams, president of Crown Central Petroleum Corporation; Edward S. Boyles of Boyles, Brown and Scott, attorneys of Houston; Murray W. Dodge, executive vice-president of the American Oil Company; Jacob Blaustein, first vice-president of the American Oil Company; Howard P. Ingles of Theodore Schultz & Company; Maurice Newton of Hallgarten & Company; Karl F. Steinmann, attorney; E. L. Phillips, president Empire Power & Development Company; Henry Rosenberg; A. Rothbart; Dr. Alvin Thalheimer, president Lord Baltimore Filling Stations, Inc.; J. A. Thistlewaite, assistant secretary-treasurer Crown Central Petroleum Corporation, and M. C. Ehlen, vice-president of Crown Central Petroleum Corporation.

Ten Completions Recorded in Louisiana Gulf Coast

Houston. — Ten completions, including eight oil wells with combined initial production of 6040 barrels, were recorded in the Louisiana Gulf Coast area during the past week. This record is out of the ordinary as compared with results commonly obtained during a single week, representing both a greater number of completions and a higher percentage of producing wells. During the whole month of October there were only 24 completions in the area, and out of that number only 10 were producers, while extensive drilling of doubtful area resulted in 14 failures.

Among the eight oil wells completed the past week there were three each at East Hackberry and Vinton, and one each at Lockport and Sulphur, while the other two completions were abandonments of sulphur tests drilled by Texas Gulf Sulphur Company on Napoleonville dome, Assumption Parish. Details on these various wells are included among the "Completions" carried as a regular department of this journal.

Vinton Field Gets Three Completions For Week

Houston.—In the Vinton field of Calcasieu Parish, Louisiana, there were during the past week three oil well completions, the first in four weeks, and they had a total initial production of 1600 barrels. Wilson Broach's Wilson 2 was brought in for 500 barrels at a depth of 3600 feet. Production was formerly found in an upper sand in this well and it was drilled deeper. Vinton Petroleum Company's Matilda Gray 10 came in for an initial of 500 barrels from 3620 feet and Gulf Refining Company's G. & G. N. 69 is making 600 barrels of oil from a depth of 3030 feet.

Two wells were completed in October in this field, one for an initial production of 2150 barrels daily and the other for a production of 500 barrels per day. Completions from the first of June until the present time show a total of 18 wells with only one failure out of the number. Total initial production for the seventeen producing wells amounts to 23,365 barrels.

Houston Geologists Field Trips

Houston.—Members of the Houston Geological Society held a field day Saturday, November 22, the itinerary of which included part of Fort Bend and Wharton Counties. They visited the Texas Gulf Sulphur Company mine at New Gulf and the Boling oil field. The party had lunch at New Gulf, and they inspected the sulphur plant and vats under guidance of representatives of the sulphur company, and were shown over the field.

New Mexico and Rocky Mountain Area

Hold Joint Oil and Gas Convention

Great Falls, Mont.—The Alberta and Montana chapters of Rocky Mountain Oil & Gas Association are to hold a joint convention in Great Falls December 12-13, at Rainbow Hotel. It will be the occasion of the sixth annual meeting of the Montana chapter. A joint convention was held last year in Calgary.

Business sessions will be held morning and afternoon of both days, which will include a meeting of the state committees of Wyoming and Montana, of the national code of marketing practices. For evening entertainment features, the "Mystic Order of Wildcats" will hold sway on one night and the annual cabaret dinner and dance will, as usual, be the outstanding social feature of the meeting.

Greasewood Dome Test Unfinished

Denver, Colo.—Among the major operators who have evinced interest in the discovery of oil on Greasewood dome, in Weld County, to the extent of recording leases are Midwest Refining Company, Continental Oil Company, and Indian Territory Illuminating Oil Company. Platte Valley Petroleum Corporation has made no further steps toward final completion of the test and it is still standing at 6667 feet, producing about 120 to 150 barrels per day by heads. It was supposed that the well would be drilled deeper into the producing sand, and completed at once, However, title difficulties are said to have stood in the way of this, and now that they are out of the way it is said that no further work will be done until the company holds its annual meeting in January to determine management for the following year.

Second Test to be Undertaken in Grand County Area

Salt Lake City, Utah.—Another test will be drilled to the Pennsylvania series in the hope of developing commercial oil production in Grand County, Southeastern Utah. It will be a joint venture by Utah Southern Oil Company and Mountain States Oil Company (subsidiary of Utah Oil Refining Company). Location is on the Salt Valley anticline, and well is to be known as Balsley 1. Standard cable tool equipment is to be used to drill the well to 3500 feet if necessary.

The Pennsylvania series has been proved for good production in the Rattlesnake Dome territory in New Mexico, not far east of the new location.

There have been several tests previously drilled in Southeastern Utah, and although there have been several showings of both oil and gas reported, none has proved commercial when tested.

Get Gas Well in Southern Alberta

Great Falls, Mont.—The Paul von Weymarn interests have made an important discovery of gas in the wildcat well drilled on Pincher Creek structure, 35 or 40 miles south of Turner Valley field, Southern Alberta, which add materially to the good prospects of other sharp-dip structures in Alberta and Montana. The well is bottomed at 2150 feet, some few hundred feet above the lime in which much larger production is anticipated. The well is reported to be good for 5,000,000 feet of gas which is capable of producing seven barrels of natural gasoline per 1000 cubic feet.

Similar to the Pincher Creek structure is the Milk River dome on which W. M. Fulton is drilling a test. His well is now standing below 810 feet, awaiting the arrival of fuel oil to be used in drilling. Diesel engine is completely installed, and the work will be continued during the winter.

Make Another Midway Dome Location

Casper, Wyo.—Another location has been made on Midway Dome by interests identified with Midwest Refining Company and its affiliated companies in the joint operations on this structure. The location is in the center of the 40-acre tract directly north of the discovery well, SE SE Section 14-25-79. Sumps and foundations for the derrick have been dug, but no date has been set for the drilling. Discovery on this structure was completed two months ago by Midwest Refining Company. Location is 12 miles north of Casper.

Buck Springs Strike Reported

Rawlins, Wyo.—It is reported that Petroleum Exploration Company of California has made a very good discovery in its test on the Buck Springs structure, north of here. The test has considerable gas and oil coming from the Muddy sand at 800 feet. This test is some 1100 feet west of a well drilled several years ago by Producers & Refiners Corporation against a fault; it had both oil and gas showings in small quantities around 250 feet.

Wyoming Structure Test Shut Down

Kemmerer, Wyo.—Mountain Oil Corporation's test (unit operation) on the Wyoming structure in Lincoln County, Southwestern Wyoming, is to be shut down for the winter, during which title difficulties are to be straightened out. The well has developed enough natural gas to supply the camp with fuel and light.

Bell Rock Discovery a Gasser

Craig, Colo.—Midwest Refining Company has completed its discovery gas well on Bell Rock structure, in Moffat County, and has shut it in. The well is bottomed at 3040 feet and has a production of 35,000,000 cubic feet of gas with a rock pressure of 1055 pounds. Future plans of the company concerning the development of this structure have not been announced. The well was originally intended as a test of deeper sands for oil, and the discovery of gas in such large quantity came as a complete surprise.

Osage Tract Sells For $100,000

Osage, Wyo.—Considerable interest was manifested in the Osage oil field, Weston County, eastern Wyoming, during the last week, when a 40-acre tract belonging to Curtis & Straitiff interests was sold for $100,000. It has four completed wells producing 150 to 200 barrels per day of very high grade crude oil, and room for four more good locations.

Louisiana--Arkansas Field Notes

Zwolle East Field Extended Quarter Mile Southwest

SHREVEPORT.—The Zwolle chalk rock producing horizon in Sabine Parish, Louisiana, was extended a quarter of a mile further southwest Saturday, November 22, when The Texas Company's Maines 1, NE SE Section 5-7-11, was bailed in from Zwolle chalk at 2341 feet, flowing by heads at an estimated rate of 400 barrels daily, but made only 150 barrels of oil for the first 24 hours, 6⅝-inch casing having been set at 2283 feet. The test had bailed dry at 2286 feet. This new producer extends the four-mile extension of the Zwolle east field a quarter of a mile southwest.

Lacey Production Company's Cooper 1, Section 30-8-11, almost one mile east of production in the Zwolle east field proper, has set 6⅝-inch casing after an oil show in the chalk at 2363 feet. W. M. Coats is ready to drill in Sabine 1, Section 1-7-12, between the mile south extension and the four-mile southeast extension, after setting 6⅝-inch casing at 2185 feet.

Six new locations, three for Zwolle, were announced in North Louisiana during the week. Louisiana Gas and Fuel Company will drill a wildcat in southeast La Salle Parish, near the Angelina-Caldwell Flexure, on Tensas Delta B-2, SW NE Section 23-7n-4e. A. H. Tarver has rig up for Baker 1, NW NE Section 36-8-12, Sabine Parish, 1½ miles east of production in Zwolle east field. C. W. Robinson made location for Trammell 1, NE NE Section 5-7-11, in the southeast part of Zwolle, and John Woodley made location for Sabine 1, NE SE Section 12-8-12, Sabine Parish. Gulf Refining Company has spudded in its Natchitoches Parish wildcat, Bodcaw Lumber Company 1, NW NE Section 13-13-8w, and on November 22 was drilling at 300 feet.

Zwolle recorded five dry holes during the week, three in the edge of the northeast part of the field. R. L. Gay, Trustee, abandoned a test 1¼ miles northeast of the west Zwolle field, in the direction of production in the Zwolle townsite nine miles from the west Zwolle field, abandoning Bowman-Hicks 8, Section 18-7-13, as a dry hole at 2552 feet. Several oil shows in the test were obtained in the Zwolle chalk.

Much Water, Little Oil From Urbana Completion

EL DORADO, Ark.—In the Urbana district of Union County, Arkansas, Marine Oil Company's P. Winn Estate F-1, Section 10-18-13, is pumping 1000 barrels of fluid daily only 10 per cent of which is oil, from total depth of 3604 feet. Slightly over two miles southeast of Urbana production Oilfields Corporation's J. A. Simmons 1, NW NW Section 13-18-13, encountered salt water at 3602 feet.

In Madison County, Arkansas, where J. W. Baxter is drilling a series of shallow tests, a new test was spudded in during the week in his Hallem 3, NE SW Section 1-17-36, after he had temporarily abandoned Hallem 2 in the center of Section 17-16-26, at a depth of 405 feet. Only one other new test was launched in Arkansas during the week, this being Ohio Oil Company's Crain 11, SE SW Section 1-17-14, Champagnolle district, Union County.

C. E. Murdock, Incorporated, is deepening Murphy 5, in the northeast quarter of Section 17-16-15, in Smackover.

S. C. Jeffus, Trustee, has shut down at 330 feet in Underwood 1, NW SE Section 4-20-8, Clay County, Arkansas, after the test showed 1,000,000 feet of gas at 303 feet. Donnell and associates' Fee 1, a wildcat in Section 33-11-9, Cleburne County, is waiting on casing at 3640 feet, having just completed a fishing job at 3610 feet. H. H. Given, drilling a cable tools test in Garrett 1, Section 1-3n-19w, Garland County, is setting 5 3/16-inch casing on bottom at total depth of 3756 feet.

In Ouachita County, Arkansas, Graves and associates are pulling tubing to deepen Walker Trustee 1, SW SW Section 9-14-18, which pumped 50 barrels of fluid daily, 90 per cent salt water, from a sandy shale from 1869 to 1875 feet. This test is six miles north of the Mount Holly field of Arkansas and is considerably higher, production being obtained in the 2800-foot zone.

Rankin County Test Promises Large Gas Production

JACKSON, Miss.—Pioneer Oil and Gas Company's Graves 1, NW SE Section 12-5-1e, Rankin County, in the Jackson gas field, is showing for a gas well at total depth of 2402 feet in 11 feet of Midway chalk. Midway shale was topped at 2301 feet and 6⅝-inch casing was set at 2383 feet.

Gulf Refining Company is drilling ahead in Hamilton Estate 1, NE SW Section 4-5-2e, Rankin County, which tested salt water in the Midway chalk at 2620 feet. The well on Sunday, November 23, was drilling chalk at 2917 feet. It is two miles northeast of production. Gulf Refining Company's McLaurin 1, SW NE Section 30-6-2e, Hinds County, also northeast of production, is waiting for nine-inch casing set at 2466 feet in Midway shale, to harden.

Wallace Oil and Gas Company's Cobb 1, NW SE Section 12-5-1e, Rankin County, is ready to be drilled in, 6⅝-inch casing having been set at 2375 feet after Midway shale was topped at 2290 feet. Cane River Oil and Gas Company's Kabbes 1, NE SW Section 15-5-1e, Hinds County, tested salt water after plug was drilled and the well swabbed and it will be deepened. This well is a southwest offset to Love Petroleum Company's Maley 1, in the same section, which is still making at the rate of 10,000 barrels of hot salt water, a scum of oil and 10,000,000 to 20,000,000,000 cubic feet of gas daily with 1400 feet of four-inch tubing still in the hole.

Much blocking of acreage is going on in Central Mississippi. O. M. Estes, El Dorado, Arkansas, has recently completed blocking 20,000 acres of land in Leake County, Mississippi, centering in Section 31 and 33-10n-9e. A well is to be drilled to an unnamed depth within a year.

P. H. Underwood and C. Barnett are blocking 23,000

acres in Scott, Leake, Newton and Neshoba Counties under 10-year lease, paying 25 cents per acre rental and a proviso to start a well by next July 31. J. J. Keen of Shreveport has blocked 30,000 acres centering around township 9n-range 11E with $1 per tract bonus and 25 cents rental.

In Choctaw County, North Mississippi, Choctaw Oil and Gas Company of Ackerman, Mississippi, is blocking a 40,000-acre tract, with over 6000 acres already under lease.

Approximately 3000 acres was transferred by Pure Oil Company to C. R. Hoffer of El Dorado, Arkansas, including lands in Hinds County, some near the producing gas field, for a consideration of "$10 and other considerations."

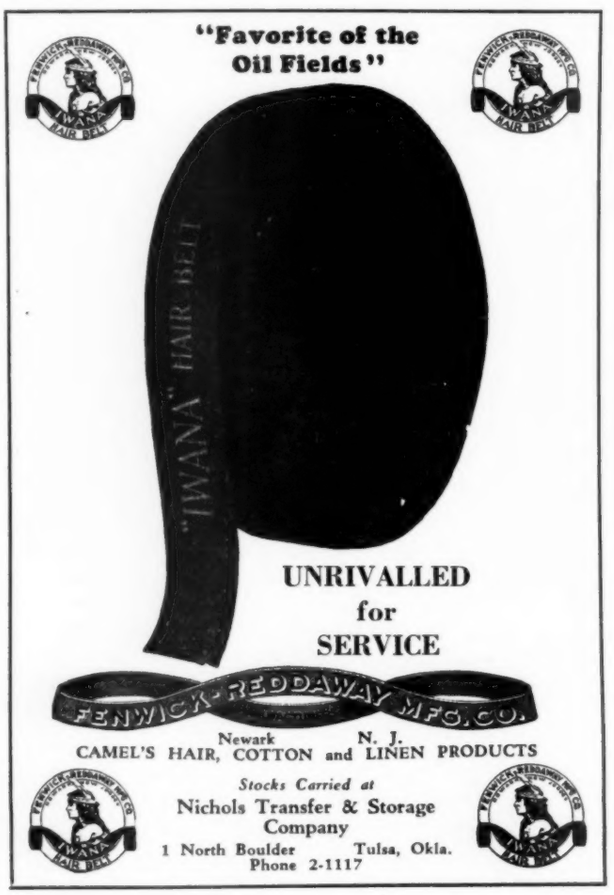
Only one new location was announced in the Jackson gas field during the last week, this being Millstein Oil and Gas Company's Gammill-Hartfield 1, SW SE Section 6-5-2e, Rankin County, where rig is already up.

De Soto Parish Test Abandoned

Shreveport.—A mile southeast of production in the lenticular Woodbine horizon of the Holly oil field of De Soto Parish, Holly Oil Company abandoned Talbot 1, Section 9-13-13, as a dry hole at total depth of 3004 feet.

A wildcat in the western part of the same parish, W. H. Weichert's H. Smith 1, Section 31-14-15, claims a gas show in four feet of sand from 1653-57 feet, and is arranging to set casing.

In the northeast part of Claiborne Parish, Prairie Oil & Gas Company, drilling a 5000-foot test in F. B. Shackelford 1, SE NE Section 30-23-5w, has set 611 feet of 12½-inch surface casing. Louisiana Oil Refining Corporation's Langston 10, Section 19-21-7, in the old Homer oil field of the same parish, drilling for a 4000 or 4500-foot depth, set 12½-inch casing at 226 feet.



PIPELINE ACTIVITIES

(*Continued from page 62*)

gan in July, with five welding crews working at scattered points along the 400-mile stretch. The entire project involved 800 miles of 10-inch pipe, and all work was performed on contract by the Oklahoma Contracting Company, Dallas, excepting the stations, which were erected by the Austin Company.

Purchase of Southern Natural Gas Line is Rumored

Jackson, Miss.—Reports from New York that United Gas Corporation has contracted to buy from Southern Natural Gas Corporation its gas line from a point near here to Mobile, Alabama, and Pensacola, Florida, and the line's branch laterals to several South Mississippi cities, strengthens reports current here for a fortnight that a re-arrangement of gas delivery out of the Jackson field to Southern Natural Gas Corporation for its line to Atlanta, Georgia, instead of all of the gas coming from the Monroe, Louisiana gas field, is probable. Heretofore Southern Natural Gas Corporation was obligated to purchase 90 per cent of its capacity from the Monroe field.

The branch lines included in the transfer to United Gas Corporation include lines to Bogalusa, Louisiana, Canton, Laurel, Gulfport, Biloxi and Hattiesburg, Mississippi.

Louisiana Gas and Fuel Company, a subsidiary of United Gas Company, has some gas production and considerable potential gas producing acreage in the Jackson field.

Mississippi Industrial Gas Company has ordered extension of its seven-inch line from Jackson to Terry, Mississippi, a distance of 16 miles, to McComb, Mississippi, approximately 100 miles south. The Electric Bond and Share is said to be backing the Mississippi Industrial Gas Company. O. H. Simonds, an executive of Electric Bond and Share, was here recently for a series of conferences.

Sugar Creek Extended West

Shreveport.—A quarter-mile western extension of the Sugar Creek gas field came in when Triangle Drilling Company and associates' J. W. Stevenson 1, SW SE Section 6-19-5w, Claiborne Parish, was completed with 1800 pounds rock pressure gauging 35,676,000 cubic feet of gas in 21 feet of oolitic lime in the upper Trinity formation. Lime was topped at 4302 feet, with total depth of 4323 feet, nine-inch OD casing having been set at 4060 feet and liner at 310 feet. Twelve and a half-inch casing was set at 1500 feet. This is the fourth gasser in this formation in this field. The gas has a high gasoline content.

Tulsa.—The Welding Engineering Company of Bartlesville, Oklahoma, has been awarded contracts for electric welding two more sections of Continental Construction Company's line from the Panhandle gas area of Texas to Chicago. The latest awards cover Section One for 50 miles in Texas and Section Five for 113 miles in Iowa. With the awarding of these contracts Welding Engineering Company has total awards of 303 miles on this pipe line project.

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AMERICA'S FIRST SOLID INJECTION DIESEL — 1917
PREDOMINANCE IN THE FIELD — 1930

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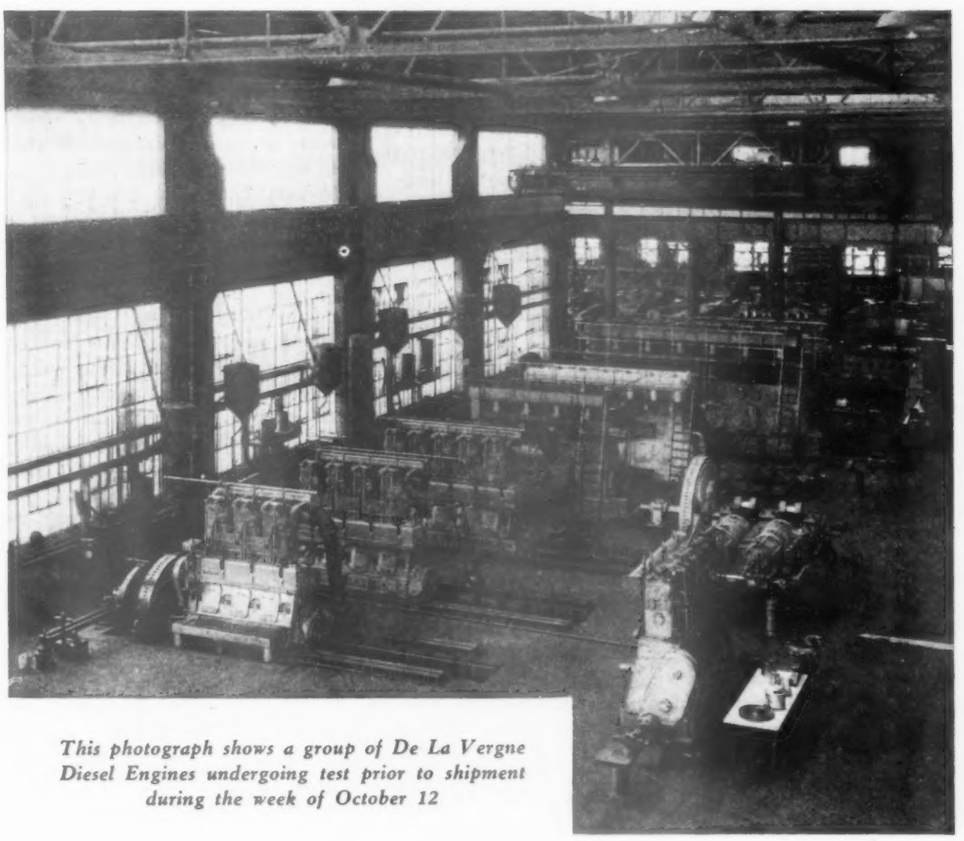

This photograph shows a group of De La Vergne Diesel Engines undergoing test prior to shipment during the week of October 12

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De La Vergne has been building 4 Cycle Solid Injection Engines since 1893

DUTCH SHELL DIRECTOR ANALYZES PRODUCTION SITUATION

(*Continued from page 24*)

Better conditions are now obtained in Venezuela, he pointed out, and closer co-operation and reduction of drilling and a substantial reduction in production, have resulted.

Finally, while the problem is of immediate interest to the producer, it does affect the consumer, he points out; because wide fluctuations in the price of the finished product, good times have to compensate for bad times. Under these circumstances, he said, the tendency must be for the average margin of profit to be greater in order to compensate for this condition, then if prices were stabilized and maintained steady over a long period. "If producers and marketers were assured of a proper return on their investment, they would have to be satisfied with a smaller average margin and to that extent the cost to the consumer over a number of years would inevitably be less."

MEXICO'S FUTURE PETROLEUM POSSIBILITIES

(*Continued from page 26*)

pico, to the south of Tampico, and in the Isthmus of Tehuantepec at the southern tip of the country. Mexico's peak production year was 1921, when it yielded 194,000,000 barrels of oil. The output thereafter declined steadily, however, slumping to 44,000,000 barrels for 1929. A survey several months ago showed the republic's average daily production then to be 115,000 barrels, and at that time there were 48 wells drilling in all Mexico, including 15 wildcats, six wells in light oil territory (the South fields), 15 in the Panuco heavy oil district, and 12 in the Isthmus.

Such briefly is the history of the Mexican oil industry, and intriguing as it may be, no attempt will be made here to go further into the details of that interesting past. In the abbreviated form in which it has been presented it is intended to serve primarily as the background for another theme—the future of petroleum in Mexico.

For in that future lies the subject matter for a forthcoming series of articles to be published by THE OIL WEEKLY beginning next week. The articles will be devoted primarily to discussion of past, present and proposed development in Tamaulipas, Nuevo Leon, and Coahuila in northern and northeastern Mexico. For that northern frontier country, lying across the Rio Grande from producing fields in Texas, represents probably the most promising region in the republic.

Publication of the series will begin next week with a complete, thorough paper dealing specifically with the structures and operating concessions in the states of Nuevo Leon and Tamaulipas. The text of the article will be fully illustrated, mith maps, pictures and tables. A later paper will deal in a similar manner with the state of Coahuila, and there will be other papers discussing the Mexican petroleum law and regulations.

TEXAS CRUDE DEMAND PLACED AT 680,000 BARRELS

(*Continued from page 61*)

Doubt exists as to the authority of the Railroad Commission to enforce the last request. Nevertheless, independent oil men present at the meeting decided that only such drastic action could prevent complete demoralization of the oil industry in Texas. Many were of the opinion that present inequalities in takings of oil in the northern producing areas of the state will not be alleviated by the new proration order and felt that additional price cuts were inevitable.

The situation in the Big Lake area, brought up before the Railroad Commission on November 22, remains unchanged. While the deep wells of this area were to have been tubed by November 15, it was disclosed that preparations had been made to do so but the seven wells charged with enormous gas waste were still flowing wide open. Chairman Pat M. Neff insisted that testimony at previous hearings indicated that all the wells could have been shut in and that this should have been accomplished by November 15. Charles E. Beyar, general manager of Big Lake Oil Company said that under the patented process used it was necessary to keep the wells open while they were being tubed, and that closing one well might cause an entire change in the 8500 foot producing strata.

Crude and Gasoline Receipts Increased on Atlantic Coast in 1929

Atlantic seaboard refining and marketing companies reported an increase in 1929 receipts of 2,542,000 barrels of crude petroleum and 13,479,000 barrels of gasoline over the quantities received during the preceding year, according to a statistical survey made by the United States Bureau of Mines, Department of Commerce. The relatively large expansion in gasoline receipts undoubtedly resulted from the unexpected increase in gasoline consumption which characterized the petroleum industry during 1929, says E. B. Swanson, chief economist, Petroleum Economics Division, in a report just published. Gasoline receipts from California increased 6,354,000 barrels and shipments from foreign countries were 5,381,000 barrels in excess of 1928, while receipts from Gulf Coast ports, the major source of outside supply, declined 811,000 barrels.

Shipments of domestic crude oil by tanker from Gulf Coast ports during 1929 continued the average annual increase of approximately 7,000,000 barrels which has been recorded during the five years of this annual survey. These shipments have increased from 72,556,000 barrels during 1925 to 99,828,000 barrels during 1929. Shipments of Mid-Continent crude by pipeline to Atlantic Coast refineries have, on the other hand, dropped from 11,903,000 barrels in 1925 to 1,409,000 barrels during 1929. Receipts of foreign crude oil declined 1,461,000 barrels from the preceding year.

Gasoline demand within the Atlantic Coast area reached a total of 123,345,000 barrels, an increase of 15.7 per cent over 1928. Gasoline production increased 4,157,000 barrels, while tanker receipts were nearly 11,000,000 barrels larger than in 1928. Indicated shipments from Appalachian refineries were somewhat larger than in the preceding year. Gasoline production showed an average of 33.5 per cent of the crude throughput as compared with 31.5 per cent in 1928 and 32.7 per of the gasoline produced, as compared with 40.6 per cent in 1928 and 35.3 per cent in 1927. Gas oil and fuel oil production averaged 52.8 per cent of the crude throughput, as compared with 55.1 per cent in 1928 and 49.5 per cent in 1927.

Domestic demand for gas oil and fuel oil in the Atlantic Coast area during 1929 reached a total of 120,504,000 barrels, an increase of 11,535,000 barrels, or 10.58 per cent, over the 108,969,000 barrels distributed during 1928. The indicated demand for kerosene in the Atlantic Coast area continued to decrease, being 8,305,000 barrels in 1929, as compared with 9,166,000 barrels in 1928 and 10,156,000 barrels in 1927. Kerosene receipts from Gulf Coast ports dropped from 5,861,000 barrels in 1928 to 4,669,000 barrels in 1929.

Further details are given in Information Circular 6397, "Sources and Distribution of Major Petroleum Products, Atlantic Coast States, 1929," copies of which may be obtained from the United States Bureau of Mines, Department of Commerce, Washington, D. C.

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COMPLETIONS FOR PAST WEEK IN U.S. FIELD

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
ATHENS-ROSECRANS—		
Sunset Pacific Oil Co., Marine 31	600	7240
LONG BEACH—		
Admiral Oil Co., Higgins 3	500	7501
R. R. Bush, Bell 2	260	7560
Dabney-Johnston Oil Corp., No. 77	2500	6060
McKeon Oil Co., No. 7	1000	7335
PLAYA DEL REY—		
Barnsdall Oil Co., Burks 9	700	3935
Gantz Oil Syn., No. 1	150	4510
C. W. Bland, Warden 1	175	4280
Crawford and Gilkey, No. 1	200	4020
A. T. Jergins, Culver 1	400	4603
Long and Wall, No. 2	450	4195
Ohio Oil Co., Gun Club 6	625	4005
Treasure Oil Co., No. 1	1600	6001
Union Oil Co., Townsite 2	800	5575
West Coast Pet. Co., No. 1	375	4415
York and Smullin, Silverstrand 1	400	4600
ROUND MOUNTAIN—		
Chanslor-Canfield Midway Oil Co., Poso 2	325	1775
VENTURA—		
Associated Oil Co., V. L. W. 14	2500	7600

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CARTER COUNTY—		
Magnolia Pet. Co., Hooks 1, sw c 13-1s-3w	615	2133
CIMARRON COUNTY—		
Magnolia Pet. Co. & Ramsey Pet. Co., School land 1, c sw nw 27-5n-5e	*	4758
CREEK COUNTY—		
Deep Rock Oil Corp., et al, Warnakee 4, se sw sw 15-15-8e	115	3230
Deep Rock Oil Corp. & Turman Oil, Lewis 3, ne c sw sw 10-15-8e	90	3768
C. G. Tibbens O&G, Sneed 4, sw c ne nw 18-14-9e	35	1185
GRADY COUNTY—		
Natural Gas Prod. Co., Ridley 2 sw c nw sw ne 25-4n-8w	¶5	1906
HUGHES COUNTY—		
McGee, Piller 2, ne nw nw 12-9-10e	¶2	1179
Mid-Kansas O&G, Eason 1, ne sw sw 6-9-11e	*	4045
MUSKOGEE COUNTY—		
Emills et al, McIntosh 1, se c ne nw 20-15-18e	¶1¼	1299
John Aggas, Lee 1, nw c sw sw 27-16-15e	*	2160
Western Develop. & Electric Co., Ingram 1, nw c ne se 9-15-18e	*	1016
E. B. Grubbs et al, Bemo 1, nw nw se 8-15-18e (owd)	*	903
E. Mills et al, Caesar 1, ne c se 7-15-18e	*	1020
Cooper and Beam, McIntosh 1, sw c 3-15-18e	*	1010
C. D. Bradley, Sango 1, (owd) ne c se 12-15-17e	*	1952
OKFUSKEE COUNTY—		
Champlin O&G, Bell 1, sw nw ne 23-10-11e	*	4073
OKLAHOMA COUNTY—		
I.T.I.O. et al, Hugh Trosper 4, nw ne ne 14-11-3w	9444	6160
Cromwell-Franklin Oil Co., Trosper Park 33, sw ne sw 12-11-3w	9138	6264
I.T.I.O. et al, View Point 1, ne sw se 10-11-3w	29990	6315
Anderson-Prichard Oil Corp., Keys 1, cnl sw nw ne 2-11-3w	11100	6198
I.T.I.O. et al, Theimer 8, nw c se 1-11-3w	500	6285
Anderson-Prichard Oil Corp., Pest House 2, nw sw nw 1-11-3w	10675	6075
I.T.I.O. et al, Knox 4, nw ne se 14-11-3w	6890	6320
McMahon, McKeehan 1, sw c nw sw nw 2-11-3w	*	915
OKMULGEE COUNTY—		
Kirkland and Son, Brown 5, cnl sw sw 9-15-13e	12	2506
F. D. Misener, Coblert 5, ne c se se 15-14-14e	10	1807

Tabulation and Comparison on page 56

Company, Well and Location	Initial Production Bbls.	Depth
OSAGE COUNTY—		
I.T.I.O., 440, ne c se sw nw 5-26-12e	¶7¼	1710
Okla. Nat. Gas Co., 1813, se c nw sw 20-21-11e	¶2	1823
PAWNEE COUNTY—		
Bryan Pet. Co., Johnson 2, ne c se 27-20-9e	7	2154
PITTSBURG COUNTY—		
Public Service Co. of Okla. Carney 1, ne c nw 16-7-18e	¶8	1760
PONTOTOC COUNTY—		
Superior Oil Co. Mauldin 8, se nw nw 32-5-5e	50	2770
Dixie Oil Co., Haynes 1 "B", sw ne sw 32-5-5e	60	2535
POTTAWATOMIE COUNTY—		
Deep Rock Oil Corp., Gibson 3, sw c ne 23-6-3e	3035	3427
Wilcox O&G, Warren 7, nw ne sw 23-6-3e	1490	3481
SEMINOLE COUNTY—		
Harris et al, Fleet 2, sw c ne 29-6-6e	605	2835
Carter Oil Co., Wilson 3, sw c 12-7-6e	1700	3125
Gypsy Oil Co., Coker 5, nw c sw 2-8-5e	1495	4191
Gypsy Oil Co., Tiger 1, se sw nw 3-8-5e	3410	4066
The Texas Co., Sandlin 1, ne nw sw, 29-9-6e	2805	4110
Gypsy Oil Co., Pompey 1, sw se nw 29-9-6e	4010	4114
Empire O&R, Fish 2 "B", nw ne se 19-7-8e	526	3093
STEPHENS COUNTY—		
Sykes et al, Blake 2, ne c sw 16-1s-8w	20	2145
Pace et al, Dilley 3, se c ne nw sw 27-2s-7w	100	1501
Harris and McNeal, Parker 1, sw c se ne se 11-2s-8w	100	2049
TULSA COUNTY—		
Mays Drlg. Co., Primus 1, cel sw nw 15-19-14e	*	1302
WAGONER COUNTY—		
Western Drlg. Co., Barnett 6, ne c se ne 34-18-17e	¶¼	265
Brashears et al, Kannard 1, nw ne ne 6-17-17e	¶¾	1008
A. H. Secrist, Barnett 2, sw se nw 34-17-16e	¶4	832
J. McCutcheon et al, Brown 3, nw c sw 36-16-17e	15	873
J. McCutcheon et al, Roberts 1, cwl e2 ne sw 9-19-16e	*	551

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
Empire O&R, Nixon 2, se c 15-27-5e	50	2742
COWLEY COUNTY—		
Lewis Prod. Co., Roberts 1, ne c sw 12-30-4e	150	2576
EDWARDS COUNTY—		
Dixie Oil Co. & Amerada, McCarthy 1, sw c se, 30-25-17w	40	4560
GREENWOOD COUNTY—		
Aladdin Pet. Co. & Phillips Pet. Co., Jones 5, nw se nw 36-24-10e	125	1877
MARION COUNTY—		
Youker et al, Riffel 1, nw sw sw 11-17-4e	95	2336
MORRIS COUNTY—		
Pratt et al, Whiting 1, nw sw sw 34-16-6e	*	2600
RICE COUNTY—		
Slick, Pryor & Lockhart, Schurr 2, ne nw sw 21-20-10w (3¼H)	475	3307
RUSSEL COUNTY—		
Signal Oil Co., Sellens 1, se c nw 26-15-13w	400	3248

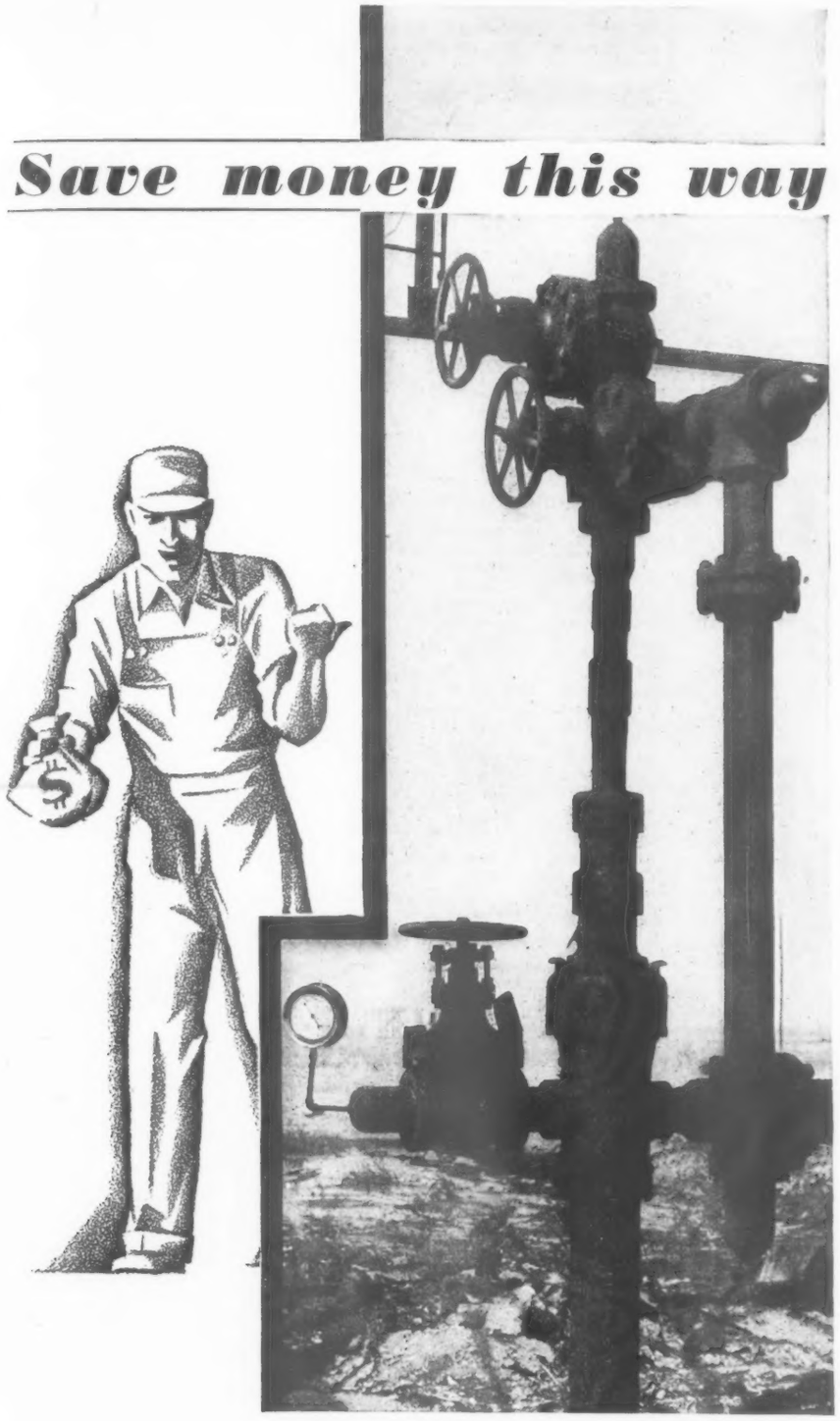
Company, Well and Location	Initial Production Bbls.	Depth
SEDGWICK COUNTY—		
Magnolia Pet. Co., Wheeler 2, nw ne ne 19-27-2e	720	29
E. B. Shawer, Fee 1, se sw se 18-27-2e	500	296
Derby Oil Co., Rimel 2, ne c 30-27-2e	*	342
Fisher and Lauck, Trustee 7, se c, 19-27-2e	*	3280
STANTON COUNTY—		
Western Prod Co., Plummer 1, c ne, 11-29-41w	*	3005
STEVENS COUNTY—		
Missouri-Kansas Pipe Line Co. et al, Kelley 1, c ne 15-34-38	¶10	2775
SUMNER COUNTY—		
Shell Pet. Corp., Churchill 11, sw ne sw 25-31-2e	25	1842
Washoma Pet. Co., Stout 1, nw c se 11-31-2e	*	2345

EASTERN STATES

PENNSYLVANIA

BRADFORD FIELD—		
South Penn Oil Co. Farm tract 4053, 3 wells	6	....
Farm tract 3791, 1 well	5	....
Melvin, 291	2	....
Forest Oil Corp. Forest 1	2	....
Q. Q. Lynn, Booth 17	4	....
George Crooks Estate, Crooks 17	6	....
Willrock Producing Co., Willrock 7	2	....
Ryan & Ball, O'Neil 1	7	....
L. P. Mullhaupt, Quintruple 2	2	....
Brink & Lincoln, Fee 42	3	....
J. F. Magee, Bingham 371 tr 8	3	....
Producers Bank & Trust Co. Bingham 143 tr 9	2	....
Brink & Lincoln, Fee 43	2	....
Babcock Oil Co. Franchot 1	3	....
Lane & Co., Bingham 371 tr 67	2	....
Forest Petroleum Corp., Fee 1	2	....
Fee 1	2	....
Barcroft & Pringle, Lewis Run 4	3	....
Healey Petroleum Corp., Fee 50	3	....
Willrock Producing Co., Willrock 9	2	....
B. F. Andrus, Bingham 321 tr 1	2	....
Hartens & Jennings, Fee 1	3	....
Penntuck Oil Co., Penntuck 1	2	....
Producers Bank & Trust Co., Bingham 143 tr 10	2	....
CENTER-MIDDLE FIELD—		
Cherry Run Oil Co., Lot 8, tr 49	¶1	....
T. H. Kervin Jr., Berry 1	7	....
J. G. Cochran, Brown 16	*	....
Roeder & Co., Hoskins 88	2	....
M. P. Wasson Estate, Borden 1	2	....
J. L. Maitland, Grandin 1	2	....
BUTLER COUNTY—		
J. S. Walker, Kelly 1	2	....
J. C. Trees, Held 1	¶1	....
W. E. Pipher, Turner 3	3	....
W. M. Ruby, Snyder 21	2	....
CLARION-VENANGO COUNTIES—		
Nupher & Co., Nupher 4	¶½	....
Corbett & White, Fee 13	2	....
S. P. McCalmont, Davis 3	2	....
United Natural Gas Co., Brockelhurst 3962	¶1	....
Thomas McLaughlin, McLaughlin 25	¶1	....
Exchange Bank & Trust Co., Reid 3	4	....
Emma Hulin, Graham 23	2	....
Hess & Master, Hector 10	4	....
W. B. Kapp & Co. Kest 29	¶1	....
Corbett & White, Fee 14	2	....
S. P. McCalmont, Davis 4	2	....
John S. Prather, Alcorn 1	2	....
Nupher & Co., Nupher 4	¶1	....
Fryburg Motor Co., Betz 1	¶1	....
H. G. McComb & Son, Wright 1	3	....
Highfield & Glass, Manley 29	2	....
GREENE COUNTY—		
Manufacturers Light & Heat Co., Chambers 3441	¶¼	1921
WASHINGTON COUNTY—		
Rapp Oil & Gas Co., McCaslin 1	¶¼	1281
BEAVER COUNTY—		
J. D. Reed, Hughes 1	*	....

Save money this way



On many ordinary hook-ups it is not necessary to use steel valves. Westcott Alliron Valves and Fittings are made of semi-steel castings of extraordinary tensile strength. Their first cost is lower and they are equally safe. Each is tested to double its rated working pressure—a margin of safety far beyond the most gruelling service gate valves are subjected to. Full stocks are carried in all stores of The Continental Supply Company and at the Westcott Valve Co., East St. Louis, Ill.

WESTCOTT VALVES

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
ALLEGANY COUNTY—		
American Oil Co., Childs 1	20	....
Forest Oil Corp, Fee 1	2	....
P. F. Shaner & Co., Roberts 1	8	....
Swarthout & Wood, Prosser 1	2	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
CALHOUN COUNTY—		
C. B. Lewis & Co., Morris 1	¶¼	....
Godfrey L. Cabot Inc., Roberts 1	¶¼	1920
F. F. McIntosh, Jarvis 1	¶¼	....
W. H. Bickel, Collins 1	¶¾	1812
BOONE COUNTY—		
Pond Fork Oil & Gas Co., Yawkey-Freeman Coal 2	¶¼	2266
MINGO COUNTY—		
Red Jacket Consolidated Coal Co., Fee 13	¶½	1502
WAYNE COUNTY—		
Bull Creek Gas Co., Crumb 1	¶½	2700
DODRIDGE COUNTY—		
Pittsburg & West Virginia Gas Co., Osborn 4995	¶½	1923
WIRT COUNTY—		
Hope Construction & Refg. Co., Watkins 3520	*	2651
BRAXTON COUNTY—		
Philadelphia Natural Gas Co., Fee 7488	*	2659
WOOD COUNTY—		
Ellis & Gordon, McDougla 3	1	....
Charles S. Smith, McAtee 4	*	....
L. W. Bickle, Mayo 1	*	....
CLAY COUNTY—		
Thompson Gas Co., Gross-Cunningham T-23	¶¼	1493
Swartz, T-26	¶½	1566
United Fuel Gas Co., Brown-Swan 4073	¶¼	2141
ROANE COUNTY—		
United Fuel Gas Co., Moore 4252	¶¼	2197
Keffer 4281	¶¼	1946
CALHOUN COUNTY—		
Chemical Oil Co., Fling 2	¶½	2068
W. S. Dailey & Co., Maze 1	¶1	1717
MONONGALIA COUNTY—		
Pittsburg-West Virginia Gas Co., Lough 2	*	2300
Moore-Tex Oil Co., Moore 1	¶½	2923
HANCOCK COUNTY—		
R. J. Braden, Brennenman 45	5	....
KANAWHA COUNTY—		
Cambridge Gas Co., Pickens 1	5	....
RITCHIE COUNTY—		
J. W. Jones, West Virginia Tract 28	1	....
MINGO COUNTY—		
Red Jacket Oil & Gas Co., Fee 14	¶½	1230
GILMER COUNTY—		
Philadelphia Gas Co., Spurgeon 1	¶½	1855
FAYETTE COUNTY—		
Montgomery Gas Co., New River Collery 7	¶½	2714
WETZEL COUNTY—		
D. W. Null & Co., Barrack 1	¶½	2948
UPSHUR COUNTY—		
C. & A. Gas Co., Snyder 1	¶¼	3989
WAYNE COUNTY—		
United Fuel Gas Co., Wilson 18	*	2600

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
JEFFERSON COUNTY—		
Boyce Drilling Co., Wilt 4	10	1400
Richard Graham & Co., Cathers 1	5	1200
WASHINGTON COUNTY—		
Elmer Wickens, Wickens 10	2	834
Herland Schramm & Co., Commerous 16	*	380
MONROE COUNTY—		
Roy Decker & Co., Ludwig 1	1	1400
Wittmer Oil & Gas Co., Curgy 2	*	1944
Pflatzgraf 1	5	1787
WASHINGTON COUNTY—		
Swinkle & Co., McGrew & Co. 8	*	620
R. O. Wooster, Dirker 1	2	285

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
MEDINA COUNTY—		
Ohio Fuel Gas Co., Hutton 1	¶¼	....
Oko Oil & Gas Co., Essig 44	25	380
Curtiss & Co., Brown 2	3	407
Peavy & Co., Stratton 14	*	475
Edson & Co., Frank 6	2	429
ATHENS COUNTY—		
Harry J. Smith & Co., Curtis 7	2	75
Goddard 1	2	80
Townsend & Co., Marchant Estate 1	3	1120
Bode & Co., Whaley 1	2	1198
ASHLAND COUNTY—		
Wile & Co., Mosher 3	5	612
Clifford & Kolb, Myers 6	*	704
The Kemrow Co., Weidman 1	*	....
LICKING COUNTY—		
Emerald Petroleum Co., Johnson 1	90	3002
The Preston Oil Co., Levingston 1	2	581
PERRY COUNTY—		
Mideast Oil & Gas Co., Scallon 1	¶2¼	3148
Berlin & Co., Emmert 1	¶¼	920
MUSKINGUM COUNTY—		
Wittmer Prop. Trustee, Border 1	¶¼	3932
Fetty & Louchery, Hawthorn 1	*	1306
VINTON COUNTY—		
Racoon Oil & Gas Co., Stanley 6	6	1095
HOCKING COUNTY—		
Ohio Fuel Gas Co., Sellers 1	¶¼	2204
WAYNE COUNTY—		
Ohio Fuel Gas Co., Ogden 1	¶½	....
ASHTABULA COUNTY—		
Schaeffer Bros., Titus 1	¶8	2754
HOLMES COUNTY—		
Ohio Fuel Gas Co., Henderschild 1	*	....
LORAIN COUNTY—		
Lorain Oil & Gas Co., Sorger 1	*	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
ALLEN COUNTY—		
H. G. Kelley & Co., Hanes 1	10	....
HARDIN COUNTY—		
Pleasant Oil & Gas Co., Burnison 1	¶½	1358
WYANDOT COUNTY—		
Galliger & Co., Marks 1	¶¾	1390
Jones & Coyle, Higgins 1	*	1526

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
PIKE COUNTY—		
C. C. Taliaferro Jr., George 4	¶2	1130
V. E. Bolyard & Co., Crow 1	¶1	1123
United Oil Corp., Atkinson 4	1	1044
JAY COUNTY—		
Unknown Parties, Hopes Lot 1	*	....
M. Stewart & Co., Davis Bros. 10	50	....
Milligan & Brown, Smiths Quarry 1	¶¼	....
WASHINGTON COUNTY—		
The Levin Co., Levin 1	*	643
SPENCER COUNTY—		
Hamilton, Atwater & Co., Bretz 1	25	....
R. E. Williams & Co., Berg 1	45	574
HAMILTON COUNTY—		
L. A. Holeman & Co., Edwards 1	15	....
DAVIESS COUNTY—		
Norris, Patterson & Co., Ageton 2	*	....
FLOYD COUNTY—		
W. E. Hines & Co., Morton 1	*	2044
PIKE COUNTY—		
C. C. Taliaferro Jr., George 5	¶2	1123
PERRY COUNTY—		
T. F. Seitz & Co., Haefle 5	5	140
Haefle 6	5	140
Glenn & Dice, Hyde 1	*	....
SULLIVANCOUNTY—		
Fred F. Bays, Jameson 1	*	800

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
McLEAN COUNTY—		
Cameron, Thompson & Co., Sommers 2	100	....
HANCOCK COUNTY—		
D. T. Bolling, Richards 3	25	....
Chester Oil Co., Bates 2	¶2	....
BELL COUNTY—		
T. J. Asher & Co., Hemminger 1	¶3	2850
UNION COUNTY—		
Central Gas Corp. Buchannan 1	30	576
WARREN COUNTY—		
Craft & McDonald, Francis 1	*	515
OHIO COUNTY—		
Rex-Pyramid Oil Co., Blair 1	60	....
Chester Oil Co., Patton 12	30	....
Hupp, Duff & Co., French 3	10	....
Leeper Oil Co., Hamilton 5	50	....
Cumberland Petroleum Co., Wedding 3	20	....
Rame & Thomas, Feemster-Winsatt, 5	15	....
Smith & Co., Taylor 1	*	....
Bigler & Co., Sharp-Johnson, 2	*	980
L. C. Young, Sapp 1	¶½	986
Hall & Garrison, Edge 1	*	....
J. R. Poynter & Co., Lyons & Co. 2	¶2	....
OHIO COUNTY—		
Newton, White & Co., Payne 3	20	....
McLEAN COUNTY—		
Ohio Oil, McManama 2	*	....
Meister & West, Harris 1	*	1430
George Engle & Co., Atherton 1	30	....
HENDERSON COUNTY—		
Niagara Drilling Co., Cooper 3	*	....
Imperial Oil & Gas Products Co., Duncan 2	2	....
Wittmer Oil & Gas Co., Knight 1	10	....
DAVIESS COUNTY—		
Hupp, Duf & Co., Jarnagin 1	*	....
Evans & Garrison, Davis Hrs. 15	15	....
White & Vickers, Sims 1	¶1	....
C. E. Daugherty & Co., Stimson 3	*	....
Davis 3	*	....
S. M. Sirman, Atherton 6	5	....
HART COUNTY—		
Norris & Co., Garvin 1	300	....
Garvin 2	150	....
Garvin 3	150	....
Pedigo 1	*	....
Hatcher 2	250	....
Carpenter, Cross & Co., Coats 1	300	....
B. F. Wilson & Co., Wilson 1	300	....
Caudell 1	300	....
Kentucky Natural Gas Co., Rhea-Jewell 1	150	....
L. C. Young, King 1	*	....

ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
WABASH COUNTY—		
Highland Oil & Gas Co., Mullinax 5	30	1564
Edrite Oil Co., Wright 4	*	1605
LAWRENCE COUNTY—		
Charles Karns & Co., Ackman 2	*	440

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
ISABELLA COUNTY—		
Gibson-Johnson-Bordon, Maian 1	150	3664
MANISTEE COUNTY—		
Swastika Oil & Gas Co., Cromer 1	*	2060
ISABELLA COUNTY—		
Gibson-Johnson-Borden Inc., Maion 1	250	3662
The Pure Oil Co., Wilcox 2	50	3590
Rockford Oil & Gas Co., Weidman 1	¶2½	1421½
CALHOUN COUNTY—		
St. Clair Oil & Gas Co., Hubbard 1	*	4571
LIVINGSTON COUNTY—		
Hillmur Oil Co., Cicarlton 1	*	2310
OSCEOLO COUNTY—		
Mellon-Pollock Oi Co., Johnson 1	*	3836
NEWYAGO COUNTY—		
Atlantic Oil Exploration Co., Stone 1	*	2174
MUSKEGON COUNTY—		
Muskegon Oil Corp., Bouwsma 1	*	2075
MANISTEE COUNTY—		
Swatsika Oil & Gas Co., Cromer 1	*	2045

LOUISIANA

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BOSSIER PARISH (Cartersville)—		
Texas Co., Wilkinson 16, 36-23-12	6	3168
CADDO PARISH—		
Shreveport Oil Corp., Muslow A-1, 32-21-15	*	2190
Tholl Oil Co., Bashara 13, 23-21-15	*	1650
RICHLAND PARISH—		
Palmer Corp., Rhymes-England 12, 33-17-6e	¶9½	2450

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
EAST HACKBERRY—		
Calcasieu Oil Co., Landry 2	840	2648
Yount-Lee Oil Co., Kelso Bayou 33	1200	2687
Kelso Bayou 35	200	2696
NAPOLEONVILLE—		
Texas Gulf Sulphur Co., Dugas and LeBlanc 2	*	1905
Landry 2	*	730
SULPHUR—		
Union Sulphur Co., Fee 745	1900	4080
VINTON—		
Gulf Ref. Co., G. & N. G. 69	600	3030
Vinton Pet. Co., Matilda Gray 10	500	3620
Wilson Broach, Wilson 2	500	3600
LOCKPORT—		
Vacuum-Gulf Co., Bayou D'In de State 6	300	4410

TEXAS

SOUTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
DARST CREEK—		
Mag. Pet. Co., Dix 4	650	2605
WHITE POINT—		
Saxet Oil & Gas Co., Bachell 17	60	4878
WEBB COUNTY—		
Alamo Dr. & Leasing Co., Benavides 2	¶10	2290
ZAPATA COUNTY—		
O. W. Killam, Cuellar 33-B	100	1577

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
BIG CREEK—		
Navarro Oil Co., Davis 5	*	4428
BLOOMINGTON—		
Houston Oil Co., McFadden 1	*	4635
ESPERSON DOME—		
Cranfill-Reynolds Vajdak 1	*	7386
HOCKLEY—		
Humble Oil & Ref. Co., Warren 8	*	5851
JEFFERSON COUNTY—		
Westbury Oil Co., West 1	*	4100
PIERCE JUNCTION—		
Navarro Oil Co., Perry 1	*	4580
RACCOON BEND—		
Humble-Valley, Duncan State Land 2	*	3656
REFUGIO—		
Moody-Seagraves Prod. Co., O'Connor 1, wo	150	6453
L. L. Smith, Powers 1	420	6459
Saxet Oil Co., Heard 12	*	6614
Ed. Price, Mission River 2	150	3665
Independent Oil & Gas Co., Rose Lambert 1	450	6461
SPINDLE TOP—		
Yount-Lee Oil Co., McFadden 144	*	5420
STRATTON RIDGE—		
Freeport Sulphur Co., Tolar 1	*	1457

TEXAS PANHANDLE

Company, Well and Location	Initial Production Bbls.	Depth
GRAY COUNTY—		
Amalgamated-German-American Oil Co., Webb 1	*	2915
British-American Oil Co.-Shell Pet. Corp., Richardson 2	400	3275
Cockrell-McIlroy Oil Co., Allam 2	180	3280
Empire Gas & Fuel Co., Archer 2-B Sailor 2	230 295	3240 3240
Shamrock O&G Co., Dial 2	*	3003
Southern Pet. Explo. Co., Baird 1	480	3276
The Texas Co., Harrah 5	450	3248
Wilcox O&G Co., Worley-Reynolds 33	190	3059
HUTCHINSON COUNTY—		
Great Plains O&G Co., J. M. Sanford 1	20	2784
Spurlock et al, W. S. Christian 1-A	20	3220
Stansylvania Oil Co., J. A. Whittenburg 1	250	3075

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
Fain-McGaha Oil Corp., West 1	*	1457
W. E. Maxson et al, Green 9-B	35	1133
McLaughlin Bros. et al, Justice 1-D	*	1205
Panhandle Ref. Co. et al, Terrell 1	*	753
BAYLOR COUNTY—		
L. T. Burns & The Texas Co., Mills 1	*	1570
CLAY COUNTY—		
Phillips Pet. Co. et al, Martin 1	*	4475
DENTON COUNTY—		
Hart Bros. et al, Wilkerson 1	*	410
GRAYSON COUNTY—		
Sherman Oil Co., Dalton 1, (dd)	30	925
THROCKMORTON COUNTY—		
Woodley Pet. Co., Shaw 1	*	1255
YOUNG COUNTY—		
Akin & Rayzor, Winkler 3	35	1094
Geo. Alexander et al, Jeffery 2-A	*	818
Belknap Coal Co., Fee 1	140	705
A. P. Bisse et al, Woolfork 1	*	812
Glover & Wall, Johnson 6	8	526
A. C. Hill et al, Benson 1	*	1000
King Royalty Co. & Bullington, Graham 6	400	704
Marshall et al, Johnson 1	*	350
McDonald & Campbell, Jeffery 1	*	854
Panhandle Ref. Co., Mayes 1	*	4815
Perkins-Cullum-Anderson, Barnhart 1	*	1113
Roy Seitz et al, Finch 2	90	638
Taylor et al, Lewis 1	*	810
The Texas Co., Lunn 1	*	1212
Wootten & Reed, Horton 2	90	612
McBrayer 5	*	631

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
Phillips-Samuels & Van Biber, Evans 1	*	2353
COLEMAN COUNTY—		
Guffey Bros. et al, Peggie 1	*	1550
Jake L. Hamon et al, Harris 1	¶1	2388
Mace et al, Baker 1	*	1480
Texas American Synd., Newton 3	350	3848
EASTLAND COUNTY—		
Fifty-Six Pet. Corp., Hunt 1	20	3202
STEPHENS COUNTY—		
Universal Oil Co., W. A. Corbett 1	*	4775

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ECTOR COUNTY—		
The Texas Co.-Cosden Oil Co., Connell 9	315	3622
HOWARD COUNTY—		
Merrick & Lamb, Clay 16	35	1919
LOVING COUNTY—		
Arkansas Fuel Oil Co., W. W. Dean 1	310	4341
The California Co., Reagan-McIlvain 3	175	4238
PECOS COUNTY—		
Cardinal Oil Co., Tippett-Shell 2-F	25	395
Dixie Oil Co., Tippett 5	60	442
UPTON COUNTY—		
Eppenauer Drlg. Co. et al, Chaney 4	55	2447
WARD COUNTY—		
Gulf Prod. Co., Hutchings 4	¶15½-50	3102

CENTRAL EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
VAN ZANDT COUNTY—		
Humble O&R Co., A. J. Fowler 1	7500	2918
Pure Oil Co., R. E. Cade (50-ac) 1	5000	2965
L. A. Smith (40-ac) 1	7000	2933
G. C. Stewart (40-ac) 2	4500	2959
A. G. Tunnell (50-ac) 1	*	3797
E. B. Tunnell (4.23-ac) 3	6500	2942
The Texas Co., R. A. Tunnell (100-ac) 2	115	2938

NEW MEXICO

Company, Well and Location	Initial Production Bbls.	Depth
LEA COUNTY—		
Tidal Oil Co., Gromes 4	¶16½-19,443	4194
Vacuum Oil Co., Nora Berry 1	¶1-1715	4190

BUSINESS BY AXIOM

The force in argument is not the clever phrase, but the demonstrable fact—and assertion has meaning in acts, not in words.

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ROLLWAY BEARING

COMPANY INCORPORATED

SYRACUSE NEW YORK

ROLLWAY CYLINDRICAL ROLLER BEARINGS

PERMITS GRANTED FOR NEW WELLS

TEXAS

ARCHER COUNTY—Paul Atchley, Olney, H. C. Lemmon, 40, 1, Wm. Ainsworth B 11 sur, 150 ft from s and w lines. Panhandle Refg. Co., Wichita Falls, W. H. Terrell, 80, 1, W. L. Herring sur, 150 ft from s and w lines. Z. G. Scott, Fee, 320, 1, 1881 TE&L sur, 150 ft from n and w lines. A. P. Nicholson, Wichita Falls, J. J. Spear, 40, 1, S 14, W. L. Herring sur, 600 ft from w and 150 ft from s line. Bridwell Oil Co., Wichita Falls, Falls CSL, B 50, 1, Falls CSL sur, 1000 ft from w and 200 ft from n li B 35. Frank Hutcheston, Archer City, F. E. Hildebrand, 22, 1, R. Story sur, 150 ft from n and e lines. Continental Oil Co., Wichita Falls, Falls CSL, D, 50, Falls CSL sur, 524 ft from w and 150 ft from s li Blk 13. W. E. Maxon, Jr., et al, Wichita Falls, F. C. Green, B 320, 9, J. Levins sur, 175 ft from w and 750 ft from n line. Fraser & King, Wichita Falls, J. H. Roberson, 85, 1, J. A. Allen sur, 150 ft from n and w lines. Jesse Lincoln, Archer City, J. F. Kovar, 160, 1, B 53, G. P. Meade sur, 875 ft from w and 150 ft from s line. Dr. C. W. Wallace, Wichita Falls, Kemp-Kempner, 80, 3, No. 2, S. P. Ry. sur, 1818 ft from n and 150 ft from e line.

ANDERSON COUNTY—Humble O&R Co., Houston, A. E. Todd, 200, 2, D. Roberts sur, 1465 ft from w and 250 ft from n line.

ANDREWS COUNTY—Deep Rock Oil Co., Wichita Falls, Kuykendall, 640, 1, S 24, B A46 sur, 330 ft from n and e line sw¼.

BEXAR COUNTY—Collin & Marosis, San Antonio, J. Halbardier, 93, 4, No. 57 sur, 750 ft from n and 930 ft from w line; 5, 1000 ft e of No. 4; 6, 155 ft from n and 1380 ft from e line. W. R. Swearingen et al, San Antonio, J. Halbardier, 109, 3, No. 57, J. Perez sur, 300 ft se of No. 2 A. J. Swearingen, 100, 8, No. 52 sur, 300 ft w of No. 7. F. M. Terrell, San Antonio, A. Braden, 318, 1, J. Barber sur, 225 ft e and 2370 ft from s line. F. H. Eckert, San Antonio, W. Sandemer, 193, 1, J. Montez sur, 155 ft from n and 200 ft fr w line.

BROWN COUNTY—Rector Oil Co. & Lane, Fort Worth, J. A. Baker, 180, 1, No. 161, A. White sur 575 ft from w and 875 ft from s line. Beadles & Co., Breckenridge, J. D. Caldwell, 143, B 1, No. 279 sur, 1350 ft from n and 1700 ft from e line.

CALLAHAN COUNTY — M. C. Levinson, Baird, J. S. Hart, 7, S 7, D&D Asy. sur, 150 ft w and 750 ft from s line. E. R. Hornbeck, Putnam, J. L. English, 150, 1, S 47 sur, 300 ft s of center of n line.

CLAY COUNTY—Roy Dawson, Oklahoma City, A. B. Wylie, 9, 1, B 74, School sur, 150 ft from s and w line. Saxet Oil Co., Petrolia, J. F. Alcorn, 5, B 27, PCSG sur, 150 ft s of No. 2.

COLEMAN COUNTY—Barnsdall Oil Co., Tulsa, F. Golson, 82, 2, No. 164, I. Harris sur, 552 ft from w and 150 ft from s line. Eastland Oil Co., Fort Worth, A. J. Cannon, 48, 1, No. 168, A. Wickson sur, 150 ft from s and e lines.

COOKE COUNTY—Geo. L. Pace, Wichita Falls, A. J. Dennis, 73, 3, H. Wilkinson sur, 1427 ft from w and 150 ft from w line. A. J. Erlewine, Wilson, Okla., S. J. Poteet, 15, 2, P. P. Anderson.

CHAMBERS COUNTY—McAlbert Oil Co., Houston, Higgins, A, 7, 2, W. H. Hodges sur, 350 ft from n and 50 ft from e line.

CORYELL COUNTY—D. W. R. McKinney et al, McGregor, J. Q. Davidson, 73, 1, N. Robertson sur, 800 ft from n and 1200 ft from w line.

COMANCHE COUNTY—Logan Fain, Rising Star, C. T. White, 50, 1, A. Hoxey sur, 300 ft from nw and 150 ft from sw line.

CROCKETT COUNTY — J. W. Dieringer, San Angelo, Bousearen, 80, 1, S 27, B HH, GC&SF sur, 50 ft from n and 1213 ft from e line nw¼.

DUVAL COUNTY — Cooperative Drilling Co., Laredo, J. Dinn, 40, 4, S 454 sur, 450 ft from n and w lines of Blk 4.

EASTLAND COUNTY — Mook-Texas Oil Co., Fort Worth, E. A. Sibley, 51, C 1, B 6,

Tabulation and Comparison on page 56

W. Van Norman sur, 250 ft from w and 650 ft from s line. Nature's Treasure Oil Co., Cisco, E. C. McClelland, 160, 1, S 466, S. P. Ry. sur, 330 ft from n and w line ne¼.

GUADALUPE COUNTY — Magnolia Pet. Co., Dallas, T. Dix, 50, 15, J. W. Robinson sur, 300 ft sw of No. 4. M. T. Klein, 100, 5, J. W. Robinson sur, 300 ft sw of No. 4.

GONZALES COUNTY — Wael Oil Co., Houston, R. T. J. Pettit, 91, 1, T. Moore sur, 475 ft from s and e lines.

GAINES COUNTY—Texas Consolidated Oil Co., Breckenridge, E. H. Jones, 640, 1, S 4, B A8, School sur, 2310 ft from n and e lines of Sec.

GRAY COUNTY—Warner Oil Co., Pampa, J. S. Morse, 80, 1, S 68, B 25, H&GN sur, 330 ft from s and w line n½ nw¼.

HARRIS COUNTY—C. E. Howard, Gulf Bldg., Houston, J. M. McDade, 94, 1, N. Brady sur, 794 ft from e and 1650 ft from s line. Humble O&R Co., Houston, R. F. Gehring, 1, W. J. Lovett sur, 100 ft from s and 125 ft from e line. Sloane Prospecting Co., Houston, A. U. Wosoba, 1, H. Nash sur, 165 ft from e and 450 ft from s line. E. M. Wilson, Houston, Wheeler-Pickens, 2, 6, J. B. Stevenson sur, 100 ft from w and 35 ft from s line, Blk 25.

HARDIN COUNTY — Paraffine Oil Co., Houston, Fee, 12, 87, Green sur, 202 ft from w and 37 ft from n line. Ada Belle Oil Co., Batson, C. G. Hookset, 144, C. Choate sur, 75 ft from e and 450 ft from s line.

HUTCHINSON COUNTY — Liner Drilling Co., New York, Johnson, 20, 1, B Y, S 29, A&B sur, 1650 ft from n and 330 ft from e line; 80, 2, S 6, B 1, B&B sur, 440 ft from n and 330 ft from e line. A. S. Mitchell, Summit, N. J., M. Dunaway, 100, 1, S 7, B Y2, TTR Ry. sur, 440 ft from n and 330 ft from e line.

JONES COUNTY—Union Oil Co., Abilene, W. C. Hendrich, 914, 1, S 195, Martinez sur, 200 ft from n and w lines. S. C. Yingling, Ft. Worth, L. R. Cade, 80, 1, S 17, B 19, T&P sur, 330 ft from s and e line s½ nw¼.

JACK COUNTY—Ascot Co., Wichita Falls, S. E. Maxey, 60, 8, J. W. Maxey sur, 800 ft from w and 870 ft from s line.

LIBERTY COUNTY—Cranfill & Reynolds, Houston, Kirby, 50, 1, M. Duncan sur, 1505 ft from e and 150 ft from n line. Gulf Prod. Co., Houston, E. W. Boyt, 621, 10, A. Allem No. 22 sur, 500 ft e of No. 9.

LIMESTONE COUNTY—Imperator Oil Co., Dallas, B. B. Barrow, 634, 1, E. Mabry 9 sur, 1450 ft from n and 1000 ft from w line.

MONTAGUE COUNTY — Continental Oil Wichita Falls, J. W. Maddox, A, 190, 29, B 2, C. W. Thompson sur, 625 ft from s and w lines.

McLENNAN COUNTY—D. W. R. McKinney et al, McGregor, H. Lorenson, 180, 1, B. C. Walters sur, se corner.

MEDINA COUNTY—Marshall Eskridge et al, San Antonio, South Texas Est, 1024, 1, M. W. Dikes sur, 1000 ft from n and e lines.

MOORE COUNTY—Gulf Prod. Co., Houston, B. Dore, 640, 1, S 312, B 44, H&TC sur, 1320 ft from s and e lines of Sec.

NACADOCHES COUNTY—Geo. E. Ginter, Nacadoches, E. R. Mooney, 163, 1, J. Cole sur, se corner.

NUECES COUNTY—Hale & Stafford, Corpus Christi, Prisur, 491, 1, H. B. Sheppard sur, 300 ft from w and 150 ft from s line.

PANOLA COUNTY — J. S. Dean, Shreveport, G. W. Burmble, 107, 5, E. F. Mitcheson sur, 3900 ft from n and 1946 ft from e line Survey.

PALO PINTO COUNTY — Brazos River Gas Co., Mineral Wells, Edmondson, 2042, 8, F. H. Gray sur, se corner. H. Harrison, 40, 1, R. Clark sur, 600 ft from e and 2692 ft from s line.

PECOS COUNTY—Dittman Oil Co., Fort Stockton, H. J. Eaton, 120, 1, S 37, B 2, H&TC sur, 330 ft from s and e line of Sec. Corvette Oil Corp., Fort Worth, J. H. Tippett, 40, 2, S 40, B 194, GC&SF sur, 150 ft from n and w lines. Southern Crude Oil Pur. Co., Fort Worth, Scharff, 80, 1, S 38, B 3, H&TC sur, 4590 ft sw and 330 ft from se line Sec.

REFUGIO COUNTY—L. L. Smith, Refugio, Reyner, 1, Refugio sur, center of Blk. 87. Morgan & Moody-Seagraves Co., San Antonio, Toups, 137, 1, Refugio sur, 150 ft from n and w lines. J. F. B. Heard, 55, 3 B, Refugio sur, 325 ft w of No. 2B. Moody-Seagraves Co., San Antonio, T. Heyser, 132, 1 B, Refugio sur, 150 ft from n and w lines. Luling Oil & Gas Co., San Antonio, G. E. Strauch, 1, Refugio sur, nw cor of Blk. 16.

RUSK COUNTY—H. L. Hunt, Henderson, D. Y. Bradford, 17, 1, B 12, Ximinez sur, 150 ft from n and e lines. Patton & Harrell, Fort Worth, Frederick, 2, 1, B 9, F. Joiner sur, center.

SHACKELFORD COUNTY—H. & H. Drlg. Co., Albany, B. S. Walker, 60, 1, 381, TE&L sur, 1400 ft from ne and 450 ft from se line Sec. Joe Baldie, Albany, J. Rice, 1, S 72, L. A. L. sur, 150 ft from s and w lines. G. P. Mitcham, Cisco, J. H. Nail, 80, 4, S 69, E. T. Ry. sur, 150 ft s and w line sw¼ of nw¼.

SAN PATRICIO COUNTY — Cosden Oil Co., Fort Worth, Ramsey, 1, AB&M No. 2 sur, 990 ft from n and w lines.

TOM GREEN COUNTY—W. C. Pratt, San Antonio, Fee, 80, 2, Joshua sur, 150 ft from s and 300 ft from w line nw¼.

UPTON COUNTY—Gulf Prod. Co., Fort Worth, J. H. Shirk, 320, 1, S 1, B 3, MK&T sur, 1650 ft from w and 330 ft from s line n½.

VAN ZANDT COUNTY—Pure Oil Co., Ft. Worth, N. E. Clark, 95, 4, J. Prado sur, se corner. L. A. Smith, 40, 1, J. Walling sur, 152 ft from e and 139 ft from e line. A. D. Clark, 42, 2, A. H. Wiley sur, 645 ft from n and 209 ft from e line. F. B. Smith, 80, 2, J. Walling sur, 139 ft from w and 157 ft from s line. Humble O&R Co., Wichita Falls, R. S. Blake, 201, 5, J. Walling sur, 1362 ft from e and 150 ft from n line. Pure Oil Co. & Texas Co., Fort Worth, R. A. Tunnell, 100, 4, J. Walling sur, 217 ft from n and 335 ft from w line. Geo. L. Pace, Wichita Falls, P. S. Hand, 50, 1, Wm. Sherman sur, 720 ft from e and 756 ft from s line.

WICHITA COUNTY — R. R. Clark et al, Wichita Falls, J. F. Bickley, 400, 11, S 2, C&M sur, 1200 ft from n and 450 ft from e line Sec. Bridwell Oil Co., Wichita Falls, J. L. Waggoner, 40, 1, H. George sur, 150 ft from n and e lines of Blk. 4. T. F. Hunter, Wichita Falls, Amer. Refg. 128, 1, J. M. Sharp sur, 1782 ft from e and 1475 ft from s line. R. H. King, Wichita Falls, J. N. George, 107, 1, O. Farrish sur, 150 ft from n and 784 ft from w line Sur. J. H. Turner, Wichita Falls, W. N. Rodgers, 40, 1, B 15, TCSL sur, 150 ft n and 450 ft w line. H. R. Stroube, Wichita Falls, W. W. Overby, 20, 3, J. M. Sharp sur, 150 ft from s and 450 ft from e line. F. O. Cole, Iowa Park, Burk, 176, 2, B A, TCSL sur, 700 ft from n and e lines.

WILBARGER COUNTY—A. E. Blair, Electra, First State Bk, 20, 1, S 31, B 13, H&TC sur, 150 ft e and 1000 ft from s line Sec. Texas Co., Wichita Falls, W. T. Waggoner, A, 387, S 6, B 13, H&TC sur, 2310 ft from n and 444 ft from w line Sec; 386, S 5, B 13, H&TC sur, 660 ft s of No. 385.

WARD COUNTY—Empire Gas & Fuel Co., Bartlesville, Smith, 100, 1, S 5, B F, G&M sur, 330 ft from n and 650 ft from e line Sec. Massey & Black, Grand Falls, E. R. Allen, 34, 1, S 11, B 5, H&TC sur, 150 ft from s and w lines.

WHARTON COUNTY—Long Point Synd.,

(Continued on page 96)

WILDCATS FROM ALL SECTIONS

WEST TEXAS

ANDREWS COUNTY—Deep Rock Oil Co. et al's Kuykendall 1, sp and sd. Fuhrman Pet. Corp.'s W. T. Ford 1, elev 3186 ft, td 4613 ft and pb to 4564 ft and swab 232 bbls oil after shot 150 qts at 4389-4545 ft, shot 200 qts at 4287-4474 ft and flowed 115 bbls oil via bridge.

BREWSTER COUNTY—Trans-Pecos O&G Co.'s Jones 1, elev 3073 ft, sd 2510 ft.

COCHRAN COUNTY—Continental Oil Co.'s Slaughter 2, lcn.

CONCHO COUNTY—Beesley et al's Waring 1, sp and sd. A. W. Turner-Cromwell & Wesner's Brosig 1, co 1520 ft.

CRANE COUNTY—Cranfill Bros. Oil Co. et al's J. T. Muir 1, elev 2499 ft, top salt 485 ft, top white lime 2330 ft, lowering 6⅝ cas to 3770 ft. Cranfill & Gulf Prod. Co.'s J. B. Tubb 1, elev 2526 ft, top salt 505 to 1400 ft top brown lime 1415 ft, top white lime 2455 ft, making gas with spray oil 4303-4488 ft, dr by tools.

CROCKETT COUNTY—John W. Dieringer et al's G. Barnscorew 1, dr 230 ft. Magnolia Pet. Co.'s A. C. Hoover 2, sd 2056 ft. Taylor-Link Oil Co.'s Mary Bullock 1, dr 950 ft.

CULBERSON COUNTY — Grisham-Hunter Corp.'s W. D. Garren 2, sd 1520 ft. W. L. Kornrumpf et al's Garren 1, sd 1055 ft.

DAWSON COUNTY—R. A. Albaugh et al's John Robinson 1, rig.

ECTOR COUNTY — Southern Crude Oil Pur. Co.'s Cowden 2, rig. H. F. Wurtz et al's Ibbetson 1, elev 2840 ft, top salt 865 ft, fsh bit 3250 ft.

EDWARDS COUNTY—Phillips Pet. Co.'s Holman 2, set cas 6640 ft.

FISHER COUNTY — Condor Pet. Co. & Humble O&R Co.'s Wilson 1, elev 1879 ft, fsh 1685 ft. Cranfill-Reynolds Co.'s Flannigan 2, sd 3130 ft; Willingham 3, sd 3090 ft. The Texas Co.'s Stephen 2,A, elev 1936 ft, dr 2338 ft; M. Teagarden 2-B, elev 1870 ft, dr 2480 ft.

GAINES COUNTY—Texas Consolidated Oil Co. & T. P. Coal & Oil Co.'s E. H. Jones 1, rig.

GLASSCOCK COUNTY—F-H-E Oil Co.'s J. W. Meek 1, top salt 1120 ft, dr 2015 ft.

TOM GREEN COUNTY—Belding & Dutton's Norsworthy 1, sd 765 ft. Mintex Oil Co.'s Campbell 1, dr 1855 ft. Phillips Pet. Co. et al's Jennings-Gulden 1, elev 2016 ft, sd 5010 ft. Pratt & Hancock's Lewis 2, sp and sd.

HOWARD COUNTY—Greene Prod. Co. & Getty Pet. Corp.'s Denman 1, elev 2280 ft, top lime 1700 ft, swab 105 bbls and co after two shots, td 2826 ft; Snyder 1, elev 2314 ft, top lime 1790 ft, dr 2770 ft. McGinley-Sigler Co.'s Hyman 1-B, elev 2349 ft, ur 1835 ft.

HUDSPETH COUNTY—G. R. Theison et al's University 1, sp and sd.

IRION COUNTY—Central Oil Co. (W. E. Newton's) H. Horney 2, set cas 1020 ft. Carl Cromwell et al's Tankersley 1, elev 2520 ft, sd 1712 ft. Dixie Oil Co.'s W. H. Williams 1, dk. Straughn & Texannati Oil Co.'s Tankersley 1, elev 2306 ft, sd 1440 ft. F. E. Webb (Brazelton) et al's Williams 1, elev 2363 ft, sp and sd. P. H. Williams et al's Noelke 1, dr 3300 ft.

JONES COUNTY—McBest et al's Roberts 1, sd 1000 ft. Union Oil Co. et al's Hedrick 1, dr 130 ft. Sam Yingling et al's Cade 1, dr 675 ft.

LOVING COUNTY—The California Co.'s Reagan-McIlvain 5, top salt 770 ft, dr 3210 ft; Reagan 6, top salt 740 ft, dr 1810 ft; Reagan 7, rig. Carl Cromwell & Atlantic Oil Prod. Co.'s Wheat 1, lcn. Douglas et al's Wheat 1, lcn. A. R. Eppenauer et al's Allen 1-A, top salt 850 ft, dr 3900 ft. Henshaw et al's Reagan 2, rig. Lewis & Slagel Drlg. Co.'s Cartwright 1, sp and sd. Lockhart & Co.'s Allen 4, rig. Miller-Burge & Healy's Chapman 1, top salt 750 ft, sr 4200 ft. Phillips Pet. Co.'s Wheat 2, top salt 775 ft, dr 4075 ft. Rush-Anderson Moor's Wheat 1, dk.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc,. used in completion and wildcat repports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr — straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

MENARD COUNTY—J. C. Barnett et al's Callan 3, elev 2077 ft, set cas 1774 ft, co 1814½ ft; Callan 4, lcn. L. G. Priest et al's S. P. Sorrells 1, elev 2279 ft, sd 2520 ft.

MIDLAND COUNTY—Kirwin et al's J. M. Mathena 1, top anhydrite 1550 ft; top salt 1610 ft, dr 2795 ft.

MITCHELL COUNTY — Lewis & Slagel Drlg. Co.'s A. M. Bell 1, elev 2278 ft, top lime 1700 ft, dr 1735 ft.

PECOS COUNTY—J. R. Bell et al's H. J. Eaton 1, lcn; Scharff-Blackman 1, top salt 940 ft, show oil 1473 and 1562-64 ft, sd to set cas. Charlesworth-Messenger Oil Co.'s Butz 1, elev 2519 ft, sd 1105 ft. E. L. Chapman et al's Streety 1, elev 2653 ft, sd 2210 ft. Cosby Prod. & Roy. Corp.'s Cordova 1, elev 3230 ft, top salt 725 ft, top lime 1826 ft, sd hfw 3005 ft. C. L. Dittman Drlg. Co. et al's Eaton 2, lcn; Eaton (Sec. 37) 1, sp; Jackson 1, machine. Humble O&R Co.'s H. L. Kokernot 1, elev 3593 ft, top salt 2713 ft, top black lime 3981 ft, fsh tools 6170 ft; Mrs. C. L. Thompson 1-B, elev 3061 ft, dr 3515 ft. B. C. Mann et al's Scharff-Blackman 1, lcn. McCarty Oil Co.'s Gray 3, dr 1155 ft. J. R. Miller et al's Bennett 1, sd 1700 ft. J. D. O'Mara et al's Bennett 1, elev 2508 ft, sd 1230 ft. O. J. Perren et al's Eaton 2, elev 2437 ft, fsh 1765 ft. Pure Oil Co.'s Harrison 1, elev 3495 ft, top Delaware 4265 ft, top sand 4282 ft, dr shale 4845 ft. Rio Grande Oil Co.'s Webb 1, dr 2415 ft. Riser & White's Riser 1, sd 405 ft. Schelling & Slaughter's Yates 1, sd 340 ft. Sides & Southern Crude Oil Pur. Co.'s Scharff-Blackman 1, machine. Williams & Moran's Heiner-State 1, dr 985 ft.

REAGAN COUNTY — Big Lake Oil Co.'s University 179, dr by tools, td 4003 ft; University 5-C, sd after cem 7-inch cas with 1000 sacks at 8036 ft, td 8051 ft. Group One Oil Corp. (Conoco's) University 4-B, dr shale 6485 ft. T. B. Slick et al's A. August 1, top salt 1095 ft, dr 1690 ft.

REEVES COUNTY—The California Co.'s Kloh 1, elev 2798 ft, top black lime 4207 ft, top Delaware 4236 ft, co 4246 ft after shot to deepen; Kloh 2, lcn. May & Milton's Ellis 1, sd 1465 ft.

RUNNELS COUNTY — Boyce & Lamar's Lange 1, elev 1844 ft, sd 2643 ft. Chas. Dutton et al's G. W. Dean 1, sd 1695 ft.

SCHLEICHER COUNTY — Delmar Oil Co.'s O'Harrow 1, elev 2421 ft, dr 5640 ft. Munger-Wilson Oil Co.'s Page 1, elev 2270 ft, sd 5053 ft. Paul Teas & Walter Gant's Allison 1, elev 2311 ft, sd 3960 ft. J. D. Wesner et al's R. E. Ratliff 1, sd 750 ft.

SCURRY COUNTY—Camp Springs O&R Co.'s Strayhorn 1, sd 875 ft. Mid-Kansas O&G Co.'s Peckham 1, elev 2155 ft, co with hfw 4373 ft. R. P. Pender O&G Co.'s Davis 1, elev 2308 ft, top salt 445 ft, ur to set 5 3/16 cas 5000 ft. Scurry County Oil Exchange's C. H. Earnest 1, lcn. Seifert & Dibble's Blackburn 1, top salt 720 ft, ur 12½ cas 810 ft.

STERLING COUNTY—W. C. Beesley et al's W. L. Foster 1, elev 2518 ft, co 550 ft.

TAYLOR COUNTY — Adams-Ferguson & Hobbs' Lowe 2, sd 2560 ft. Eastland Oil Co. et al's A. W. Hunter 2, dr 2350 ft. Herring et al's Richie 1, elev 1978 ft, sd 2570 ft. J. B. Jameson et al's Webb 1, elev 1905 ft, co to set 3-inch cas 6250 ft. Sanger et al's Abilene City fee 1, elev 1759 ft, dr 1390 ft. Sanger O&R Co.'s Osborn 1, rig.

TERRELL COUNTY—Big Bend Oil Corp. et al's Bassett 1, elev 2396 ft, sd 2670 ft. Mid-Kansas O&G Co.'s Goode 1, elev 2405 ft, sd 5226 ft.

VAL VERDE COUNTY—O. O. Owens et al's Mills 1, elev 2130 ft, sd 6780 ft. Phantom Oil Co.'s Ingram 1, sd 3035 ft.

UPTON COUNTY—Gulf Prod. Co.'s J. H. Shirk 1, sp. Penn Oil Co. & Shell Pet. Corp.'s J. M. Halamicek 1, lcn. TP Coal & Oil Co.'s King 1, dr 415 ft.

WARD COUNTY—Alpine Oil & Dev. Co.'s Boogher 2, dr 810 ft. The California Co. & Atlantic Oil Prod. Co.'s S. R. Allen 1, dr 2050 ft. Black & Massey's Allen 1, dr 235 ft. Empire Gas & Fuel Co.'s Sealy 1, dr 110 ft. Grand Falls Oil Co.'s Blair & Boogher 1, machine. Gulf Prod. Co.'s O'Brien 15, top salt 1145 ft, top lime 2290 ft, flowing 30 bbls oil at 2625-2725 ft. J. K. Kugle et al's Chas. Wallis 1, dr 300 ft. Magnolia Pet. Co.'s John Sealy 1, top salt 2090 ft, top lime 2700 ft, flowing 66 bbls 29.2 gravity oil daily at 3036-60 ft. R. F. Owen et al's Johnson 1, elev 2499 ft, sd 1200 ft. Sid Richardson et al's O'Brien 5, top salt 1135 ft, top lime 2315 ft, flowing oil and gas, dr broken pay 2573-2700 ft. Rickford & Smith's Johnson 1, dr 510 ft. Shipley Oil Corp.'s Monroe 1-A, elev 2655 ft, top salt 2485 ft, sd 2520 ft. TP Coal & Oil Co.'s H. James 1, machine.

WINKLER COUNTY—Magnolia Pet. Co.'s Bashara 1, fsh tools 268 ft; Scarborough 3, top salt 1225 ft, top lime 2573 ft, flowing 101 bbls oil via 2½-inch tubing at 2827-76 ft. L. C. Turman et al's Daugherty 1, top salt 1440 ft, top lime 2645 ft, flowing water with show oil and gas, dr 3115 ft.

CENTRAL EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
CAMP COUNTY—		
McDonald Bros.-Atlantic Oil Prod. Co., B. D. Tillery 1,.....	*	4319
ELLIS COUNTY—		
The Triangle Corp., W. B. Hale 1	*	3178
RUSK COUNTY—		
Arkansas Fuel Oil Co., J. A. Worrell 1	*	3700
Lauren L. Smith et al, W. H. Worrell 1	*	3672

ANDERSON COUNTY — Frost Oil Co.'s Botting 1, A. H. Patton sur, rig. Humble O&R Co.'s J. W. McCaffrey 1, I&GN Ry. Sur A-418, elev 365 ft, first broken Pecan chalk 2875 ft hard chalk 2938 to 3163 ft, dr Eagleford shale 3925 ft.

CAMP COUNTY—McDonald Bros. et al's Tillery 1, abn 4319 ft.

BOWIE COUNTY—Joe Burnham et al's G. W. Burnett 1, M. H. Janes sur, top Annona chalk 1430 ft, top chalk 2906 ft, sd 3150 ft. Maud Redwater Oil Co.'s Merritt 1, Y. S. McKinney sur, sp and sd.

CASS COUNTY—Wesley Morse et al's Henderson 1, C. C. Bailey sur, dk. Phillips Pet. Co.'s J. R. Olds 1, J. A. Stephenson sur, elev 245 ft, top Saratoga chalk 1935 ft, top Annonna chalk 1955 ft, fsh drill stem. John C. Rogers et al's Lanier 1, K. A. Welbon sur, elev 366 ft, top Annona chalk 2144 ft, sd for cas 2218 ft. The Texas Co.'s Citizens State Bank 1,

Jos. Watkins sur, elev 339 ft, top Saratoga chalk 2260 ft, top Annona chalk 2363 ft, cored dry blossom sand 3205 ft, dr 3450 ft.

CHEROKEE COUNTY—Arkansas Fuel Oil Co.'s N. A. Deaton 1, F. Coleman sur, elev 368 ft, Pecan chalk 3493-3813 ft, dr 4375 ft. Arcadia Ref. Co. & Buder's Jones Gin Lot 1, sp and sd. D. H. Byrd et al's W. H. Felder 1, Brooks Williams sur, trying to shut off 3000 gal flow water per minute, td 603 ft.

DELTA COUNTY—The Delta Co.'s Mrs. Neatherly-Hays 1, J. B. Anderson sur, elev 503 ft, tested salt water and sd 3081 ft. D. S. Hoad et al's J. J. Baker 1, T. P. Eddin sur, dr 685 ft. Worthington & Stedham's W. H. Dejermett 1, E. Chick sur, dr 490 ft.

ELLIS COUNTY—G. C. Foster & S. C. Richardson's Moise-Cerf 1, La Pena sur, elev 440 ft, sd 2187 ft. E. M. Rogers et al's J. L. Winn 1, O. Wheeler sur, sd 1325 ft.

FANNIN COUNTY—Ed. V. Parsons et al's Morgan 1, J. E. English sur, elev 668 ft, showing gas with water, reaming to set 6-inch cas 3435 ft.

FRANKLIN COUNTY—Harper-Byers Oil Co.'s A. J. Laws 1, D. G. Rogers sur, dr 1690 ft.

GREGG COUNTY—W. A. Moncrief-J. E. Farrell & Arkansas Fuel Oil Co.'s F. K. Lathrop 1, Wm. Robinson sur, rig. W. T. Daniel & Mrs. Mamie Hammonds' Hamby 1, John Lout sur, elev 376 ft, top Saratoga chalk 2361 ft, sd in chalk 2590 ft.

HENDERSON COUNTY—H. B. Ashburn et al's T. E. Terry 1, Arron York sur, elev 397 ft, Pecan chalk 2810-3015 ft, coring 3255 ft. E. L. Chapman et al's Cade 3, J. B. Dorsey sur, heavy rotary rig. Texas-State Oil Co.-R. H. Dearing et al's T. H. Skinner (20-ac) 1, J. Hinshaw sur, elev 453 ft, Pecan chalk 2500-2603 ft, top broken Austin chalk 3559 ft, hard chalk 3570 ft, dr Eagleford shale 4105 ft.

LIMESTONE COUNTY — Imperator Oil Corp. et al's B. B. Barron 1, Evans Mabry sur, rig.

NAVARRO COUNTY—L. G. Priest et al's H. Albritton 1, H&TC Ry. sur, top Austin chalk 2276 ft, dr 2500 ft.

RED RIVER COUNTY—D. M. Buffington et al's L. H. Moore (80-ac) 1, D. Cornelius sur, Annona chalk 3 to 241 ft, dr 335 ft. E. L. Chapman et al's Morris-Guest 1, S. Larkin sur, sd 1505 ft. Droppleman & Bundy's J. W. Cunningham (180-ac) 1, S. V. Shi sur, lcn. Johnson Pet. Co.'s Style 1, Dean sur, tested salt water 2195 ft, re-set cas 2215 ft. Lloyd Oil Corp.'s R. H. Mace 1, Wm. Cullum sur, dr 1850 ft.

RUSK COUNTY—J. Alford et al's W. L. Wallace-Thrash 1, R. H. Pinney sur, dk. P. A. Bailey et al's Thrash 1, F. Cordova sur, sd 201 ft. Ed. W. Bateman et al's L. D. Crim 1, E. Sevier sur A-697, elev 440 ft, dr 2300 ft. Dan Dillon et al's Frederick 1, I. Parker sur, dk. E. L. Chapman et al's A. P. Finney (20-ac) 1, I. Parker sur, A-623, dk. Frank Files (O'Mara & Meredith's) Robertson (14-ac) 1, R. H. Pinney sur, dk. Frank Foster & Deep Rock Oil Co.'s C. D. Ashby (60-ac) 1, elev 429 ft, top Pecan chalk 2315 or 2601 ft, dr 3450 ft. H. L. Hunt et al's Daisy Bradford (17-ac) 1, elev 391 ft, top Pecan chalk 2332 ft, first hard chalk 2500 ft, trace oil in sand 3542 ft, dr shale and lime 3645 ft. Kimbrough & Miller (now Anderson's) D. Bradford 1, elev 396 ft, top Pecan chalk 2500 ft, dr 3050 ft. Tex Lloyd et al's Camp (5-ac) 1, elev 408 ft, dr shale 3250 ft. J. K. Lewis & Abe Goodman's O. C. Jones (15-ac) 1, Wm. Brown sur, rig. A. A. Malone et al's W. M. Camp (4-ac) 1, lcn. C. Rosenfield et al's E. L. Pinkston 1, M. V. Pena sur, elev 363 ft, sd 2015 ft. Nat Sadler et al's W. C. McElroy (45-ac) 1, Abner Nail sur, lcn. L. L. Smith et al's Worrell 1, dry & abn 3672 ft. C. C. Stone et al's McCullough 1 and 2, lcns. Stroube & Stroube's W. H. Frederick 1, elev 415 ft, cored Georgetown lime at 3614-18 ft and then set drill stem at 3506 ft, resulting in four fourbles oil and one fourble mud and sd to test. Wainwright-West Oils, Ltd.'s, Geo. Moore (7½-ac lse.) 1, materials.

SMITH COUNTY — Owen-Sloan Oil Co.'s J. H. Starnes 1, J. W. Allen sur, elev 417 ft,

PERMITS

(Continued from page 94)

Shreveport, Kellar, 20, 1, Lot 21, S. F. Austin sur, 10 ft from ne and 1100 ft from se line.

WILLIAMSON COUNTY—E. L. Chapman, Fort Worth, J. C. Abbott, D, 32, 3, S. Miller sur, 300 ft w of No. 2; 4, 300 ft w of No. 3; 6, 1119 ft from e and 150 ft from s line; 8, 150 ft from n and w lines; 9, 150 ft from s and w lines.

YOUNG COUNTY—J. V. Scrivener, Denison, R. L. Sullivan, 50, 1, 1918, TE&L sur, 150 ft from w and 1250 ft from n line. R. R. Malone, Dallas, R. L. Johnson, 40, 1, 2946, TE&L sur, 150 ft from e and 300 ft from s line. Smith & Shamblin, Bristow, R. Bulloch, 80, 1, 419, TE&L sur, 150 ft from s and e lines. Midland Oil Co., et al, Fort Worth, E. C. Keith, 20, 1, 268, TE&L sur, 150 ft from n and w line ne¼. Belknap Coal Co., Wichita Falls, Fee, 53, 2, 22, TE&L sur, 200 ft w of No. 1; 3, 159 ft from n and 1420 ft from w line. Petroleum Prod. Co., Wichita Falls, C. Graham, 48, 5, 2249, TE&L sur, 150 ft from w and 450 ft from s line. Wooten & Reed, Graham, M. E. McBrayer, 40, 5, 1907, TE&L sur, 900 ft from s and 575 ft from e line of Sec. F. A. Gorrio, Olney, Heard, 150, 1, M. Barnes sur, 400 ft from w and 150 ft from s line Sec. W. H. Kerbow et al, Henrietta, S. A. Charida, 40, 1, 1670, G. T. Brown sur, 150 ft from n and e lines of Sec. Mollenkopf & Alexander Bros., Olney, S. L. Ellis, 80, 6, 2244, TE&L sur, 300 ft e of No. 5. F. H. E. Oil Co., et al, Sherman, Finch, 40, 1, 31, TE&L sur, 150 ft from n and e lines. E. R. Perkins, Olney, G. H. Sanford, 160, 1, 215, TE&L sur, 150 ft from s and e lines of Sec. McDonald & Campbell et al, Dallas, S. R. Jeffrey, 80, 1, 44, TE&L sur, 150 ft from s and e lines of nw¼. Willis & Terrell, Newcastle, J. M. Kirkland, 40, 4, 2250, TE&L sur, 150 ft from n and 750 ft from e line.

KANSAS

BUTLER COUNTY—E. W. Marland, Inc., et al, Anderson 2, nw sw ne 6-27-4e.

COWLEY COUNTY—Roth and Faurot, Smiley 1, se c nw 12-32-4e.

McPHERSON COUNTY—W. C. McBride, Inc., Whitwright 1, (owd) ne c sw 30-19-1w; Otstot et al Munn 1, nw sw sw 6-20-1w; United Pet. Co. & Shell Pet. Corp., Smith 1, nw c 29-19-1w.

NESS COUNTY—Gypsy Oil Co., Coelman 1, c sw ne 25-17-25w.

RICE COUNTY—Gypsy Oil Co., Koenig 1, sw c ne 10-20-10w.

RUSSELL COUNTY—Keys Pet., Inc., Baxter 16, se c 32-13-15w.

SEDGWICK COUNTY—E. B. Shawver, Robbins 2, se c nw sw 21-28-1e; Fisher and Lauck, Shaffer 2, (Twin) ne se nw 30-27-2e; Derby Oil Co., Eastborough 5, ne nw ne 19-27-2e; National Refining Co. et al, Murdock 3, ne se se 18-27-2e; Magnolia Pet., Vickers 1, nw sw sw 17-27-2e.

STAFFORD COUNTY—Rosenthal et al, Gray 1, c ne, 11-24-13w.

SUMNER COUNTY—G. W. Long and Blackwell O&G Co., Rex 2, se nw se 22-33-3w.

OKLAHOMA

CARTER COUNTY—The Texas Co., Eaves 4, nw se sw 24-1s-3w.

CREEK COUNTY—O. M. Irelan et al, Bruner 1, cel nw nw 27-18-11e; S. W. Anthony, Felix 1, ne c nw sw ne, 9-16-12e.

GARVIN COUNTY—Mallernee Oil Co., Phillips 1, ne c sw 24-2n-2w.

GRADY COUNTY—Natural Gas Producing Corp., Barry 1, cwl nw ne 25-4n-8w.

LATIMER COUNTY — Midwestern O&G, Bullock 1, c n2 sw, 3-6n-19e.

MARSHALL COUNTY—W. E. Simms et al, Sparlin 1, nw c ne 2-6s-6e.

MUSKOGEE COUNTY—E. Price et al, James 1, ne c sw se 18-14-17e; Beland Oil Co., James 11, nw c se se 18-14-17e; Jess Rebold et al, Miller 1, sw c se ne ne 32-13-19e.

OKFUSKEE COUNTY—Dempsey and Wise, Webster 1, se sw ne 3-12-12e.

OKLAHOMA COUNTY—Tom Slick Oil Co. & Phillips Pet., Owens 1, nw se ne 3-11-3w; Phillips Pet. Co., Temple 1, nw c ne ne nw 10-11-3w; Anderson-Pritchard Oil Corp., Clark Community 1, ne c se nw se 3-11-3w; Ambassador Oil Co., 1, ne c nw nw ne 2-11-3w; Wirt Franklin Pet. Corp., Schilling 1, nw c ne se sw 10-11-3w; Tom Slick Oil Co., Whitfield 1, sw c se se 34-12-3w.

OKMULGEE COUNTY—Wm. Sherry and Murta, Pense 1, c se ne 20-16-11e; Denton and Marshall, Rentie 1, cwl nw sw 13-14-14e.

OSAGE COUNTY—Peters Pet. Co., 1, sw se ne 11-25-9e; J. E. Cooper, 1, nw c ne se se 26-21-10e; Turman Oil Co., 5, cwl sw 11-21-8e.

PITTSBURG COUNTY—Public Service Co. of Okla., Carney 2, nw c, 16-7-18e; Choctaw Gas Co. Hayheim 1, ne c, 16-7-18e; Central States Light & Power Co., Huston 1, ne sw se 9-7-18e; Central States Light & Power Co., Carney 2, sw c ne 9-7-18e; C. O. Cannady et al, Travis 1, c sw ne 15-7-14e.

SEMINOLE COUNTY—Magnolia Pet. Co., Harjo 3"A", nw ne ne 14-7-6e; Crosbie Inc., Robinson 1, nw se ne 30-8-8e; Barrett et al, Wilson 1, sw c se se 19-8-8e; Carter Oil Co., Tewee 7, ne nw ne 14-7-6e.

STEPHENS COUNTY—Meridian Gas Co., Melton 1, sw c nw se 30-4-7w; Carter Oil Co., Toney 1, nw c ne sw 27-2s-7w.

TULSA COUNTY—Campbell et al, Grayson 1, se c ne ne nw 4-19-14e; Mays Drlg. Co., Brooks 5, se c nw se nw 2-18-13e; Mays Drlg. Co. Hollingsworth 1, nw c sw 10-18-15e; Preston et al, Perryman 2, ne c nw nw 4-17-14e.

LOUISIANA

BOSSIER PARISH (Drill)—Harry I. Morgan, Shreveport, La., Kendricks B-11, 22-19n-11w, 1520 ft n and 1920 ft e of sw cor of Sec.

CALCASIEU PARISH (Drill)—Vacuum Oil Co., Houston, Texas, B. T. Waite 1, 12-9s-7w, 225 ft w of e line and 225 ft n of s line out of se cor of Sec.

DE SOTO PARISH (Drill)—C. D. Neff et al, Shreveport, La., Ramsey 1, 33-13n-16w, 1000 ft w and 400 ft s of e¼ cor of Sec. J. M. Bridges, Tr., Pleasant Hill, La., H. A. Cook Ld. Co. 1, 16-10n-11w, 900 ft w and 330 ft s of ne cor of Sec.

JEFFERSON PARISH (Drill)—Humble Oil & Ref. Co., Houston, Texas, Delaware Fur Trapping Co. 1, —16s-23e, 3850 ft w along n of Delaware Tract and s line of Little Village Tract from Bayou Barataria and 150 ft s of line in T. 16s, Rge 23e.

LA SALLE PARISH (Drill)—La. Gas & Fuel Co., Houston, Texas, Tensas Delta B-2, 23-7n-4e, 1980 ft s 89° 48 ft w, 1321 ft s 0° 15 ft w of ne cor of Sec.

PLAQUEMINE PARISH (Drill)—Gulf Ref. Co., Houston, Texas, Bruas Levee Dist. B-2, 27-21s-30e, 1795 ft n and 1290 ft w of se cor of Sec. Humble Oil & Ref. Co., Houston, Texas, Cockrell-Moran 2, 3775 ft n and 5650 ft w of ne cor of T. 21s, R. 26e, s of Lake Grand Ecaille. Humble Oil & Ref. Co., Houston, Texas, Cockrell Moran 3, 21s-26e, 9247 ft n and 6904 ft w of ne cor of T. 21s R. 26e.

RICHLAND PARISH (Drill)—State Line Oil & Gas Co., Houston, Texas, Noble-Morris 1, 35-16n-5e, 389 ft w and 917 ft n of se cor of Sec. United Carbon Co., Monroe, La., H. Lindow 1, 15-16n-6e, 1980 ft s and 37 ft e of nw cor of Sec.

SABINE PARISH (Drill) — Frank Melat, Inc., Shreveport, La., Sabine Lbr. Co. 1, 14-7n-12w, 330 ft s and 330 ft w of ne cor ne¼ of nw¼.

WEBSTER PARISH (Drill)—The Gerhig Co., Shreveport, La., Miller 1, 16-18n-10w, 330 ft s and 330 ft e of nw cor ne¼ of sw¼.

ARKANSAS

UNION COUNTY—H. L. Hunt Inc., Swilley 6, 300 ft n 300 w se cor, se¼ se¼, 21-16-16. The Ohio Oil Co., W. R. Crain 11, 330 ft n 330 ft w se cor sw¼ 1-17-14. The Ohio Oil Co., W. N. Raulston 2, 330 ft s 330 ft e center of sec 12-17-14.

Pecan chalk 2738-3052 ft, sd 3770 ft. T. B. Slick & J. G. Kugle, Jr. et al's M. Freeman 1, A. L. Lagrone sur, elev 498 ft, top Pecan chalk 2955 ft, dr 3600 ft. Sun Oil Co.'s Oscar McGehee 1, Thomas Quevedo sur, elev 428 ft, dr 2510 ft. Thayer & Rogers' Dr. Willingham 1, Jacob Herrin sur, dr 1960 ft.

TITUS COUNTY—Deep Rock Oil Co.'s Ed. L. McElroy 1, Kendall Lewis sur, elev 460 ft, top broken chalk 2438 ft, dr 2690 ft.

UPSHUR COUNTY — McGinley Corp.'s Reeves-Truitt (47-ac) 1, L. B. Brown sur A-23, rig.

VAN ZANDT COUNTY—Bethel Oil Co.'s P. Smith 1, M. Neal sur, elev 435 ft, sd 4603 ft. J. C. Fore et al's P. S. Hand 1, Wm. Sherman sur, dr 1810 ft. Hartt Pet. Co.'s M. L. Cox 1, A. C. Nugent sur, sp and sd. Neil McElroy et al's R. W. Murphy (159-ac) 1, H. Bailey sur, rig. T. W. Moore et al's (was Ward Powell's) W. A. Kellam 1, J. Russell sur, elev 515 ft, top Pecan chalk 2782 ft, top Austin chalk 4032 ft, sd 4203 ft. Van Oil Assn.'s J. C. Tankersley 1, L. Landers sur, dr 310 ft.

VAN FIELD—Cranfill & Germany, Inc.'s, Swain (5-ac) 1, sp and sd. Hartt Pet. Co.'s Swain (2.3-ac strip) 1, sp and sd. Helms et al's C. E. Bogue 1, M. University sur, elev 461 ft, sd 2212 ft. Humble O&R Co.'s R. S. Blake 5 and 6, rigs; Sanger Bros. 2, Pecan chalk 1660-1770 ft, dr shale 2405 ft. Roy Jenkins et al's M. E. Davis 1, sd as small pumper, td 3031 ft. Pure Oil Co.'s Sam Allen 1, top Austin chalk 2511 ft, cem cas 2841 ft; A. D. Clark (2-ac) 1, top Austin chalk 2328 ft, cem cas 2610 ft; A. D. Clark (42-ac) 2, dr 2622 ft; N. E. Clark (89-ac) 4, dr 1260 ft; W. H. Cook (86-ac) 2, cem cas 312 ft; V. T. Davis 1, dk; A. W. Ellison 2, cem cas 2765 ft, td 2779 ft; H. C. Gilbert 1, coring 2475 ft; R. A. Howell (22-ac) 2, rig; Mary P. Neillls 2, top chalk 2450 ft, cem cas with no show oil 2797 ft; F. B. Smith 2, top Pecan chalk 1535 ft, cem cas 2657 ft; O. L. Swain (80-ac) 2, coring sand 2765 ft; W. F. Swain (40-ac) 2, flowed 10 bbls oil when opened 4 hrs, td 2924 ft; Swain 3, coring 2740 ft; J. T. Taylor 2, dr chalk 2448 ft; R. L. Wells 5, dk. Shell Pet. Corp.'s E. L. Fowler (32.65-ac) 8, rig. Sun Oil Co.'s Thompson 3, dk. The Texas Co.'s R. A. Tunnell (100-ac) 2, swabbing 115 bbls oil and wont flow, td 2938 ft; Tunnell 4, dr 1050 ft. Ventex Oil Co.'s L. A. Smith (2-ac strip) 1, dk.

WOOD COUNTY—Wood County Dev. Co.'s Ricks 1, Daniel Fuller sur, sd 1000 ft.

EAST TEXAS

CASS COUNTY—Wesley Morse et al's Henderson 1, C. C. Bailey sur, dk. Texas Co.'s Citizens State Bank 1, Jos. Watkins sur, top chalk 2260 ft, top Pecan gap 2860 ft, dr 3126 ft. Jno. C. Rodgers' Lanier 1, K. A. Welborne sur, sd 2248 ft. Williams 1, Moses Frazier sur, dk pat. Phillips Pet. Co.'s J. R. Olds 1, J. Stephenson sur, dr chalk 2200 ft.

HARRISON COUNTY — Shell Rock Pet. Co.'s Daugherty 1, Burris sur, co to deepen td 3520 ft.

MARION COUNTY—Trammell et al's Hussey 1, Chas. Lockhart sur, elev 282 ft, top chalk 1771 ft, claimed oilshow in 2 ft hd chalk 1882-4 ft, sd no cas set td 1887 ft.

PANOLA COUNTY—Knott et al's Marion Durham 1, Chas. Haley sur, oil show in lime 6⅝ cas 2670 ft, blg to test td 2732 ft. Smith et al's Hunt 1, Albert Johnson sur, dk. Bell et al's Burnett Lbr. Co. 1, S. B. Hendrick sur, 8⅛ cas 2027 ft, dr lime 2500 ft. Ark. La. P. L. Co.'s Brumble A-2, B. C. Jordan sur, dr lime 4444 ft. Creighton & Hart's Kyle 1, J. Tippett sur, top chalk 1444 ft, top Blossom 2216 ft, dr hd lime 3167 ft. Warren & Dawes' McNeese 1, A. Booker sur, dk. W. G. Banks' Baldwin 1, Hampton West sur, rig. Texas La. Prod. Co.'s Baker 1, B. C. Jordan sur, dr lime 2674 ft. National Gas Prod. Co.'s H. H. Alvord 1, B. C. Jordan sur, set 10-in cas 1160 ft.

SABINE COUNTY—Loring Oil Co.'s Nona Mills Lbr. Co. 1, Jas. Mason sur, 9-in od cas 4150 ft, coring 4300 ft.

SHELBY COUNTY — C. R. Ridgeway's Parker 1, Jesse McKelvey sur, 9-in cas 1831 ft, blowout in sandy lime at 3015 ft, shut in wo. Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd 3300 ft.

SOUTH TEXAS

BASTROP COUNTY—Champion Bros.' H. B. Smith 1, td 2410 ft, dr. Chas Long's McWilliams 1, Geo. T. Glasscock sur, td 1525 ft, dr. Pacific O&G Co.'s Litton 1, td 2140 ft, dr. Schimmel & Batts' R. M. Trigg 2, Jas. Stewart sur, td 190 ft, dr.

BEE COUNTY—Cosden Oil Co.'s Stolffus 1, Jose Maria Uranga sur, td 4480 ft, set 6⅝-in csg at 4352 ft, showed 1,000,000 cu ft gas, 260 lbs pressure at 4352-60 ft, will deepen to 4750 ft. Hulburt et al's Chestnut 1, Miguel de los Santos sur, td 5010 ft, sd. Humble and Hulburt et al's Wood 1, td 5078 ft, standing. Independent O&G Co. & Moody-Seagraves Prod. Co.'s Quincy 1, td 5765 ft, sd; Welder 1, td 1035 ft, sd. J. S. Mauldin's Mauldin 1, G. A. Kerr sur, td 3734 ft, sd for fuel. Ed. Price's Weiss 2, td 4463 ft, top of pay 4411 ft, circulating mud; Weiss 3, lcn; Weiss 1, td 4423 ft, preparing to swab. Raullins et al's Campbell 1, B and B sur No. 129, td 3885 ft, coring. Rowan and Hope's Goree 1, Thomas Barton sur, dk. Simms Oil Co.'s Holzmark 2, James A. York sur No. 333, td 1670 ft, dr. Texas Co.'s S. R. Bridges 1 T. Duty sur, permit granted. Union Prod. Co.'s Ray 22, lcn; Ray 25, td 4217 ft, sd; Ray 13, ru; Ray 26, lcn. Wilson and Hill's Townsite 14, lcn; Townsite 16, dk.

BEXAR COUNTY—W. A. Biel's Fee 2, J. A. Simpson sur No. 59, lcn. Bowman & Waldrop's Ridder 1, J. M. sur, td 1934 ft, reaming 1216 ft. Collin & Marosis' Halbardier 6, spudded in Nov. 21, 1930. R. H. Eckert's P. Dobrowolski 10, 690 ft cemt csg. Eckert and Son's John Brehm 4, to mv on. Gatline Oil Co.'s Beck 3, to sp in about Nov. 26, 1930. KMS Pet. Co.'s E. Salicky 1, Mission Gardens sur, td 1115 ft, dr. Wm. M. Morgan's Masterson 3, td 850 ft, sd. Penn Oil Co.'s Kosub 1, J. W. Ralls sur, No. 11, td 1535 ft, set csg at 1448 ft, top of sand 1472 ft. J. Morgan Russell's Price Story ,1 A. Navarro sur, td 575 ft, install heavier rig. Russell and Moore's Mills 2, Angel Navarro sur, td 1120 ft, dr. Snyder, Reeves and Associates' Glasscock 2, td 520 ft, dr. Swearingen Bros' Halbardier 3, J. Perez sur No. 59, td 520 ft, dr. Swearingen Oil Co.'s Fee 8, to sp in. F. W. Tong's Willie Sandemer 1, Juan Montez sur, td 415 ft, dr Weilbacher and Associates' Ernst 1, J. Christopher sur, td 720 ft, sd set csg about 700 ft, show considerable high gravity oil.

BLANCO COUNTY — Adams and Lysles' Leeders 1, James Standford sur No. 29, td 690 ft, dr. Meeks et al's E. W. Walker 1, td 980 ft, re-dr. C. L. McCreary's Kiers 1 td 670 ft, sd to re-dr. Forest Oil Co.'s (Rosenfield et al) Hohenberger 1, sur 94, no report. Hardy Sitton's McMillen 1, td 580 ft, set csg at 560 ft.

BROOKS COUNTY—Ed. East, (Miller and Albricht) B. Garcia 3, Las Mastena Y. Gonzalene Grant, lcn. Southern Crude Oil Purchasing Co.'s Holbein-Wormser 1, El Palo Blanco de Maguellas grant, td 5565 ft, sd.

CALDWELL COUNTY—Anderson et al's Vickery 1, Damon sur, td 450 ft, dr. John T. Callahan, W. H. Callahan 3-A, J. R. Miller sur, permit granted. Cargill et al's Thomas 1, J. Roberts sur, prep to sp in. J. E. Mills, et al's J. S. McMahan 1, Pinchback sur, td 1300 ft, dr. L. H. Wentz's Mrs. S. Mebane 1, F. Berrey sur, core test.

COMAL COUNTY—Caldwell and Lanier's T. J. Byler 1, HE and WT No. 5894 sur, td 600 ft, prep to set csg.

DE WITT COUNTY—Gibson et al's William Van Roeder 1, William Dill sur, td 3275 ft, coring. Sheldon Pet. Co.'s Goehring 1, H. Stubblefield sur, lcn. Penn Oil Co.'s Junkers 1, John F. Pettus sur, td 4370 ft, dr.

DUVAL COUNTY—Cooperative Drlg. Co.'s John Dinn 4, td 1742 ft, set 6⅝-in csg at 1731 ft, sand 1729-42 ft, prod. 30,000,000 cu ft gas, 380 lbs. pressure. Frasher & Schoolfield's Bishop Duval Land Co. 1, sur. 135, td 2310 ft, set 6⅝-in csg at 2306 ft on top of sand, waiting on cement. Humble's Koehler 50, td 365 ft, dr. Mag. Pet. Co.'s Edge-Hahl 1, td 3985 ft, dr; Benavides 4, td 1760 ft, ru to dr deeper. SR&C Oil Co.'s Duval County Ranch Co. 1, sur. 2801, ru. The Texas Co.'s Duval County Land Co. 1, sur 297, lcn.

EDWARDS COUNTY — James Dalgish et al's Sid Peterson 3, td about 4675 ft, dr in hard lime. Phillips Pet. Co.'s Holman 2, sur. 25, dt 2362 ft, dr.

FRIO COUNTY—Wray & Dunbar's Barnes 1, td 2942 ft, dr, coring, gas show developed 1000 pressure at 2311-68 ft. United North & South Dev. Co.'s Little 1, J. J. & Sallie Little Ranch, td 4238 ft, dr, pipe stuck.

GOLAID COUNTY—Gibson Oil Co.'s C. B. Parks 1, Dan O'Driscol sur, td 4860 ft, dr Remenschneider et al's A. T. Fromme 1, Simpson blk, td 2302 ft, standing. T. B. Slick et al's Potter 1, Obed Marshall sur, td 2634 ft, dr. Union Prod. Co.'s Ray 27, td 900 ft, dr; Ray 28, lcn.

GONZALES COUNTY — Antibus & Cumming's Miller 1, td 2545 ft, sd. Geo. Lawrence et al's Pettus 1, Tom Moore sur, td 120 ft, to dr to 5000 ft. Linden Pet. Co.'s Hensley 1, td 4811 ft, showed oil, water and gas, plugged back to 4789 ft, trying to complete. United North & South Dev. Co.'s Wells 1, James Johnson 1-3 league, td 4280 ft, dr. A. R. Garrett's R. Karney 1, C. D. Sayre sur, permit granted.

GUADALUPE COUNTY—Gulf Production Co.'s Tadlock 5, td 2265 ft, dr; Dix McKean 15, dk. Humble's Sue Denman 1-B, td 1142 ft, dr. Mag. Pet. Co.'s M. T. Klain 5, dk; T. Dix 15, dk; T. Dix 4, td 2605 ft, pumping about 650 bbls. oil. Suttle et al's Baenzinger 2, td 1957 ft, csg set at 1763 ft on top of chalk, bailed several bbls. of oil and showed considerable gas, no further information. The Texas Co.'s Lemmie Anderson 6, td 2120 ft, dr; Knoblock 6-A, td 1350 ft, dr; P. Roamel 4, td 2140 ft, dr; R. C. Appling 1, J. B. Alexander sur, td 2383 ft, set csg on top of crevice. H. M. Wurzbach's Fee 1, td about 1200 ft, dr.

JIM HOGG COUNTY—Cole Pet. Co.'s W. P. Allen 1, sur. 23, td 2200 ft, dr. H. W. Pippin's Hinnant 1, sur. 147, dk. J. D. Pulliam Jr.'s Jones 1, td 2000 ft, dr. E. E. Watts Agent's Gomez 1, sur. 125, td 2000 ft, plugged back to 1102 ft, set 6⅝-in csg at 1070 ft, waiting on cement. P. H. Wilson's Edds 1, sur. 210, ru to sp in shortly.

KERR COUNTY. — L. L. Evans Walter Gant et al's (Mashe & Turnstill) Jeff Love 1, td 3350 ft, struck second oil sand 3347 ft, Tuesday and ceased operations. Gas pocket blew in Thursday morning 9 o'clock and ignited from bit dresser's furnace; still blazing and showing heads of oil Thursday afternoon, sand from 2544-47 ft, yielded 2 bbls. of light green oil testinh 39.6 gravity at temperature of 70 degrees. Deepened to 2563 ft. in black shale, but no increase was obtained, well shot.

KARNES COUNTY—Fort Bend Oil Co.'s Newberry 1, Carlos Martinez sur, td 2973 ft, milled through casing, about 2845 ft, last joint of drill stem in hole, cleaning out. J. Morrissey's Ragsdale 1, J. M. McCoull sur, td 1998 ft, standing.

KENDALL COUNTY—Abercrombie & Harrison's Konze 1, McCormack sur, td 1742 ft, dr. Borget et al's Willie Haag 1, td 1250 ft, dr. R. M. Perkin's Lawhorn 1, sec. 10, td 700 ft, dr. Dixon et al's Behr 1, td 2315 ft, dr. Permian Oil Co.'s Boles 1, td 1530 ft, dr. Hardy Sitton's W. B. Garvin 1, td 910 ft, dr. P. B. Sterling's McCrocklin 1, C. B. Owen sur, td 1600 ft, dr.

KINNEY COUNTY—Mag. Pet. Co.'s Wardlow 1, Blaez sur, td about 4000 ft, dr.

LA SALLE COUNTY—Fred W. Volvz's Coleman 1, sur. 514, set 40 ft in csg, waiting on cement, no later report.

LEE COUNTY—Burt et al's (M. D. Rickett) R. C. Sanders 1, td 3125 ft, sd. Marts & Leavens' Thomas 1, td 1710 ft, dr. A. H. Wheeler's Wheeler 1, td 1700 ft.

LIVE OAK COUNTY—Houston Oil Co.'s Dunning 3, lcn cleared; Snyder 1, E. Garner sur. 253, td 3640 ft, dr; Cartwright 22, td 5438 ft, making gas, water and some oil; .Boothe 1-A, M. B. Kilvin sur, td 5273 ft, top of pay 5266 ft, set 6⅝-in csg at 5266 ft, waiting on cement. Jacobs, Buzzini & Pickett's Kay 1, Bridget Faddin sur, td 700 ft, sd. Sid Keoughan's C. E. Terrell 1, Dan O'Boyle sur, td 2935 ft, sd for orders. Illinois Exploration Syndicate's Reeves Brown 1, J. E. King sur, ru. Tul-Tex Oil Co.'s L. Jacobs estate 1, G. H. & H. railroad sur, td 2350 ft, dr. Penn Oil Co.'s R. C. Lyne 2, AB&F sur, 135, ru.

McMULLEN COUNTY—Brodie Shearer & Emrich's Shiner 1, H. Brewer sur, sp in, standing. Mogul Pet. Co.'s Martin 1, E. Meloy sur, td 28 ft, set 10-in csg, now standing. Whall et al's Shiner 1, H. M. Brewer sur, permit granted.

MAVERICK COUNTY—Rycade Oil Co.'s Sullivan 5, td 7092 ft, bit lost in hole, trying to side track; Chittim 6, td 3640 ft, to re-dr.

MEDINA COUNTY — Calco Pet. Co.'s

Crawford 1, sur. 478, td 2787 ft, dr in Edwards topped at 2712 ft, formation tight. J. O. Dore's R. J. Taylor 1, sec 136, permit granted. Natl. Oil Co.'s Howard 1, John George sur, td 1645 ft, standing.

MILAM COUNTY—Lloyd Oil Corp. & H. W. Elliott's J. W. Davis 1, td 1300 ft, dr in Eagle Ford, had showing of oil at 1100 ft, in bottom of Austin chalk. Texas Co.'s F. W. Moore 1, Acosta sur, permit granted.

NUECES COUNTY — Callahan O&G Co.'s Allen 2, td 1742 ft, dr. Hale & Hall's R. Poenisch 1, permit granted. Houston Oil Co.'s Comstock 1, td 3894 ft, dr; Hunter 1, lcn. Moody-Seagraves Prod. Co.'s Smith 1, J. Dunn sur, td 2912 ft, dr. Saxet G&O Co.'s(Pearson et al) Donigan 2, 6 mi w of Corpus Christi, td 6470 ft, dr; Dunn 7, dk; State Natl Bank 1, td 4840 ft, dr. H. H. Weinert's Mohle 1, td 900 ft, dr (no later report).

REAL COUNTY — McGinley & Gigler's Habley 1, td 700 ft, dr.

REFUGIO COUNTY—C. F. Bichol's J. C. Woods 1, E. St. Johns sur, permit granted. Brookins et al's Kay 1, td 4320 ft, sd. Houston Oil Co.'s O'Conner 1, td 5950 ft, tested water at 5872-5913 ft, plugging back; Rooke 1, td 6310 ft, dr; Fannie Heard 2-A, td 4320 ft, dr; Tom Heard 1, td about 5475 ft, dr; Doughty 1, td 5471 ft, side tracked about 5000 ft, to drill deeper. Eddie M. Jones' Mitchell 2, td about 5460 ft, top of sand 5441 ft, flowing 200 bbls. through tubing. Luling O&G Co.'s Tlaman 1, td 6458 ft, set 6⅝-in csg on top of sand at 6446 ft, waiting on cement; City 1, (Refugio town blk 4), sp in. Moody-Seagraves Morgan's St. Johns 1-A, td 6485 ft, dr; Linney 1, td 6320 ft, dr; O'Conner 1, td 6463 ft, prod about 200 bbls; Rooke 1, td 6504 ft, sd; Heyser 2, to sp; J. B. F. Heard 1-C, td 5700 ft, mv on to re-dr in old hole; J. B. F. Heard 3-B, dk; Carlysle 1, td 5470 ft, ru to dr deeper. Royal Oil Co.'s Hornberg 1, td 5447 ft, set 4¾-in csg at 5420 ft, on top of sand. Saxet G&O Co.'s Clint Heard 12 (wo) td 6470 ft, coring; Ryalls 1, (wo) td 5682 ft, dr; Johnson 1, to mv on; Fox Heirs 1, td 3963 ft, ru larger rig; Wilson 1, (wo) td 3120 ft, dr. Sun Oil Co.'s Ray 3, td 3742 ft, dr. L. L. Smith's Powers 1, td 6469 ft, prod 825 bbls oil, set 4¾-in csg at 6450 ft; Rodgers 1, td 1100 ft, dr. Union Prod. Co.'s Fannie Heard 11, td 3672 ft, dr; Fox 3, td 3675 ft, oilsand, csg set 3650 ft; Powers 5, td 4210 ft, dr.

SAN PATRICO COUNTY—Cosden Oil Co.'s Powell 1, td about 4500 ft, dr; Ramsey 1, R R A B & M sur, td 2000 ft, dr. Jacobs, Buzzini & Pickett's J. C. and Bobby Baldwin 1, td 4020 ft, sd to mv on heavier rig, to drop until operations are resumed. J. L. Kenedy's Lollie McRae 1 td 2152 ft, sd. Saxet Oil Co.'s Carroll 1, dk; Rachall 17, td 4900 ft, set 9⅝-in csg at 4876 ft, made large gasser at 4878 ft, prod. 35 to 75 bbls. oil with 2050 lbs. pressure, to use high pressure pump and kill flow of gas and drilled 8 ft deeper, now being completed at new depth.

STARR COUNTY—Los Olmos Oil Co.'s Kelsey-Bass 2, dk. The Texas Co.'s V. G. Guerra 5-A, td 3725 ft, dr, tested 7 joints oil and mud with considerable gas pressure in sand at 3541-3670 ft, set 6⅝-in csg at 3541 on top of sand, waiting on cement.

UVALDE COUNTY—Phantom Oil Co.'s Claudt 1, sur 611, td about 2800 ft, sd. Waldrop and Welsh's Edmonds 1, Gomez sur, td about 1200 ft, standing.

VALVERDE COUNTY—Independent Operator's Whitehead 1, td 5430 ft, set csg. Phantom Oil Co.'s Ingram 1, td 3035 ft, sd.

VICTORIA COUNTY—Houston Oil Co.'s McFadden 1, td 4570 ft, dr. Lion Oil and Ref. Co.'s McFadden 2, Trevino sur, td 6448 ft, prep to shoot, stuck dr stem and plug back to sand at 3700 ft. The Texas Co.'s McFadden 1, Hannibal Bonney sur, td 5840 ft, dr.

WEBB COUNTY—Alamo Dr. and Leasing Co.'s S. Benavides 2, td 2290 ft, set 6⅝-in csg at 2282 ft, prod. 10,000,000 cu ft of gas with 350 lbs pressure. Usher Carson et al's Benavides 3, clear lcn. O. W. Killam's Bruni 1, sur 77, ru; Garcia 2, td 100 ft. dr. Geo. S. Marshall's C. W. Webster 3, td 2365 ft, dr, tested 15,000,000 cu ft gas at 2123-60 ft.

WILLIAMSON COUNTY—Anderson et al's Lawrence 8, to sp in. Bartlett and Wilson's R. E. Stewart 1, td 800 ft, dr; R. E. Stewart 2, td 750 ft dr. E. L. Chapman, J. C. Abbott 6-D, td 900 ft, dr; Sides 2-A, prep to sp in; J. C. Abbot 7-D, td 1100 ft, dr; T. P. Simmons 1-B, S Miller sur, permit granted. E. E. Ertel et al's J. C. Abbott 7, td 1042 ft, dr; J. C. Abbott 8, sp in. Elliott et al's A. J. Carlson 1, 1100 ft, dr. Haska Bros.' Guentzel 1, (E of Chapman field) td 2275 ft, dr in, csg set 2144 ft. Martin et al's S. Jarrell 1, td 40 ft, sd. Stratton & Horn's J. C. Abbott 9, (on w side of lease) td 1200 ft, dr. A. M. Keisker's F. J. Chapman 1, dk. Texas Gas Fuel Dev. Co.'s Gernett & Allison 1, (9 mi ne of Taylor) td 40 ft, sd. Sarsfield & Wilson's J. A. Walker 1, td 700 ft, sd; C. Sitman 1, td 3000 ft, to mv on and re-dr. Williamson County Pet. Co.'s Kilgore 7, td 1000 ft, dr; Kilgore 8, S. Miller sur, permit granted.

WILSON COUNTY—Rycade Oil Co.'s Johnson 1, J. M. Blameseda sur, to sp in shortly.

ZAPATA COUNTY—Allied O&G Co.'s Guitierrez 12, Comitas Grant, td 100 ft, standing; D. Bustamante 1, Comitas Grant, ru; F. Guitierrez 13, Comitas Grant, spudded in Nov. 19, 1930. O. W. Killam's Lopez 1, td 1935 ft, dr in sticky shale; Cuellar 32-B, sur 277, td 1446 ft, dr; Cuellar 33-B td 1585 ft, set 6⅝-in csg set at 1577 ft, prod 100 bbls; Slator 2, dk. Lincoln O&G Co.'s Guiterrez 1, Huerta Grant, td 1150 ft, standing. MacKenzie and Tallmadge's G. F. Trevino 1, td 300 ft, dr. Wm. Marks' Flores 1, ru. Moore and Moore's Adela G. De Flores 1 Charco Redondo grant, td 2000 ft, standing at 1573 ft, reported tested dry; Adela G. De Flores 2, Charco Redondo grant, td 50 ft, standing. Nordan and Morris & Grimm and Yakey's S. Bustamente 1, Comitas grant, dk. Natl. Oil Co. of Texas' Luther et al 1, Da Pron subdivision, ru to sp shortly. B. F. Nixon's A. Guiterrez 1, td 37 ft, set 10-in csg, waiting on cement to re-dr. John O'Hern's S. Benavides 1, Villa Grant, td 1425 ft, dr. John Pappas Pool Inc.'s Flores 1, prep to sp in. Penny Prod. Co.'s Juan V. Cuellar Jr. et al 1, td 1765 ft, dr, sand at 1748-58 ft, showed gas and water. Pal-Mar Oil Co.'s Jose Bustamante et al 1, td 1150 ft, dr. W. R. Shankle's Guittierrez 6, dk; Guittierrez 7, cln. SR & C Oil Corp.'s F. Cuellar 1, lcn; F. Cuellar 1, sur 825, dk; Cuellar 2-F, lcn. South Texas Prod. Co.'s F. Guittierrez 1, td 1733 ft, 6⅝-in csg set 1728 ft, top of sand, tested 625 pounds pressure through tester, waiting on cement. Wicker Arnold and Ahler's M. Garza 3, Muckelroy pool, dk. J. W. Winch's Alejandro Bustamenta 1, td 1251 ft, casing set 1216 ft, sand at 1216-32 ft, caprock 1233-35 ft, another sand at 1236-51 ft, closed down; Alejandro Bustamente 2, ru. T. H. Ward's Guadalupe Urbide 1, ru.

ZAVALLA COUNTY—Ed. Anglin's Matthews 1, td 1125 ft, dr. Texas Gas Utilities Co.'s Pryor 2, td 1960 ft, sd. F. W. Weigand's Gates 1, td about 3125 ft dr.

TEXAS GULF COAST

AUSTIN COUNTY—O'Hara et al's Schrader 1, shut down. Empire's Kunze 1, San Felipe, dr in hd rk at 5100 ft. Humble's Duncan State Land 2, e edge Raccoon Bend, abn at 3656 ft; R. Hardy B-3, e edge of Raccoon Bend, dk.

BRAZORIA COUNTY—Thos. Faust et al's Fee 6, 2 mi s Nash Dome, dr in sn at 5631 ft, prep to core. Steel & Strickland's Lochridge 1, near Lochridge, shut down. Rycade's Wisdom 27, Nash Dome, sh and l at 4310 ft. Rycade & Amerada's Seaburn 2, Stratton Ridge, w. s. at 4041 ft. Freeport Sulphur Co.'s Fee 2001, Bryan Mound, dr in li at 3460 ft. The Texas Co.'s Ewing 1, Manvel, shale at 7430 ft. J. H. Murdock 1, Fresno, dr in sh at 6186 ft. Mills Bennett's Allen 2, Allen Dome, Randon 1, Allen Dome, hd sh at 5201 ft, washing to bottom. United Oil Syndicate's Speers 1, 3 mi n Danbury, w. s. at 220 ft.

CHAMBERS COUNTY—Pure's Lost Lake 5, set 8⅝-inch csg at 5105 ft; Mayes 12, Lost Lake, w. o. c. Shell's Herff 2, Moss Bluff, dr at 5557 ft. Chicago Oil Corp.'s Lawrence 1, 10 mi s of Barbers Hill, 4080 ft in li and sh.

GALVESTON COUNTY—Gulf's Smith 10, High Island, dr in sh at 5792 ft.

GRIMES COUNTY—Wainwright-West Oil, Ltd.'s, Templeman 1, 6 mi s Navasota, dr in sh at 3505 ft, shut down. D. H. Byrd & R. H. Dearing et al's Muenker 1, ½ mi n Anderson, dr at 3498 ft.

HARDIN COUNTY—D. O. Speight's Gidrey 1, 4 mi s Batson, stdg.

HARRIS COUNTY—Humble's Simms-Smith 78, Goose Creek, pulling 9⅝ csg; Warren 8, Hockley, abn in shale at 5851 ft; Minnetex 4, Mykawa, dr in gbo at 2229 ft. W. C. Turnbow et al's Miller 1, 3 mi s Deer Park, w. s. at 2715 ft. Mrs. J. C. Baldwin's Kittman 1, 2 mi n Cypress, stdg. Gulf States Oil Co.'s Augsperger 1, 8 mi n Houston, dr in sh and li at 2856 ft.

JACKSON COUNTY — Jackson Co. Oil Synd.'s Drushell 8, Edna, w. o. c.; Lee 2, Edna gas field, shut down at 3974 ft. Warner-Quinlan's Hungerford 1, Henry Smith sur, lcn.

JEFFERSON COUNTY — Westbury Oil Co.'s West 1, Choate sur, abn in gbo at 4100 ft. The Texas Co.'s Pipkin 4, Big Hill, dr in hd sh and li at 3097 ft. Humble's McFadden 1, 8½ mi e Big Hill, capping piling.

LIBERTY COUNTY—Saxet Oil Co.'s Davis 2, n Dayton, dr in li at 4645 ft. Harrison Oil Co.'s Quintette 4, sn and sh at 4758 ft. Harrison-Abercrombie's Jones 1, dr in sn at 4640 ft. Yount-Lee's Moore Bluff 3, Esperson Dome, sh and sn at 6416 ft. Gulf's Ezzell 1, Hankamer, stky sh at 5465 ft. Humble's Breeden 1, Moss Bluff, dr in sh at 6416 ft; Hylton 1, Moss Bluff, shale separator installed at 6528 ft; Sergent 1, w. o. c.

MATAGORDA COUNTY—Empire's Bokar 1, Citrus Grove, blew out, dry gas, no oil, no gauge of gas yet. Cockburn Oil Corp.'s Hawkins 2, Shepherds Mott, sn, coring at 5026 ft.

MONTGOMERY COUNTY—Price & Wilhite's Juergus 2, 3 mi n Conroe, shut down. Lake Creek Oil Co.'s Hunt 1, Conroe, w. o. c.

ORANGE COUNTY—The Texas Co.'s Stark 2, Port Neches, perforating casing, preparing to bail.

WALKER COUNTY—Joyce Richardson et al's Smither 1, 12 mi n Huntsville, shut down.

WASHINGTON COUNTY—Clifton et al's Pruiss 1, 3 mi s Brenham, shut down.

WHARTON COUNTY—C. S. Thomas' Taylor 1, Boling, shut down; Volney 1, Boling, dr in sh at 610 ft. Givan et al's Hudgins 1, dr in gbo at 650 ft.

LOUISIANA GULF COAST

ACADIA PARISH — Yount-Lee Oil Co.'s Houssiere-Latrielle 9, Evangeline, dr in sh at 8541 ft.

ASSUMPTION PARISH—Poor Boys Drilling Co.'s LaBarre Est. 1, 47-12s-13e, stdg at 2420 ft.

AVOYELLES PARISH — R. A. Tippett's Chatalin 1, 5-1n-3e, shut down at 3400 ft. M. L. Vincent's Morrow 1, 14-2s-4e, dr in sh and li at 4221 ft.

CALCASIEU PARISH — Wilfred Lahay's Jardell 1, 25-10s-12w, at dk. J. O. Davis' Ind. Lbr. Co. 1, Starks, dr in sn and sh at 6231 ft. Yount-Lee's Miller 1, wedge Lockport, completed for 600 barrels pipe line oil at 6668. Union Sulphur Co.'s Martha Moss 1, Lockport, shut down at 6940 ft. Dr. Thomas et al's Hewitt 1, lcn. Crawford Doyle's Johnson 1, nw flank Starks, dr in gbo at 375 ft.

CAMERON PARISH—Pure's Yount-Lee 10, Sweet Lake, dr at 1501 ft. Shell's Watkins 16, Black Bayou, dk, Black Bayou State 2, Black Bayou, lcn. Freeports Sulphur Co.'s Yount-Lee 4, Black Bayou, set 6⅝-in csg at 1308 ft. Yount-Lee 5, Black Bayou, dr in lime at 1416 ft. Vacuum Oil Co.'s Cameron Meadows 1, Cameron Meadows, dr at 5175 ft. The Texas Co.'s Calcasieu Lake State A-6, dr in anhydrites at 298 ft. State East Hackberry 7, lcn. F. R. E. Tr.'s John Vincent 1, Hackberry, did not test shallow sand at 1980 ft, shut down to work over.

IBERIA PARISH—The Texas Co.'s Vermilion Bay 6, dr plug.

IBERVILLE PARISH—Standard's Wilbert 8, Bayou de Blaise, pullet D. S. and set 7-in cas to protect hole, will not drill out plug until river gets high enough to reach location by barge; Wilbert 7, Bayou Blue, dk; L. Baist Cooperage Co. 1, Bayou Blue, dk fdn; Schwing 1, reaming at 4496 ft. Shell's Wilbert 5, White Castle, gray sand at 4358 ft. Gulf's Gay 1, Bayou Choctau, dr in sand at 691 ft. Texas Gulf Sulphur Co.'s Wilbert 5, Bayou Choctau, dr in sn and sh at 460 ft; Wilbert 6, lcn; Wilbert 7, lcn.

JEFFERSON PARISH—Humble's Delaware Fur. Co, 1, Barataria dome, dr in loose sh at 7606 ft.

LAFOURCHE PARISH — The Texas Co.'s Leesville 1, 27-21s-22e, abn at 5662.

PLAQUEMINES PARISH—Humble's Cockrell-Moran 2, Lake Grande Ecaille, set and cem 16-in csg w.o.c. Garden Island Bay State 4, pulled stuck drill stem, went back in hole at 3495 ft.

ST. JAMES PARISH — Convent Oil Co.'s Jacobs 1, 28-11s-4e, swabbed salt water and no

oil, well put on compressor, waiting on larger compressor.

ST. MARTIN PARISH — The Texas Co.'s Iberville Ind. Co. 3, Hager dome, lcn; St. Martin L and Co. 5, Hager dome, bldg. dk; Rycade's Woodyard Lake 1, Bayou Bouillon, cut and pulled stuck d.s. State 4, Bayou Bouillon, hd sn at 4323 ft.

ST. TAMMANY PARISH—Washington & St. Tammany Drl. Co.'s Coussack 2, 5-6s-10e, dr in gbo at 1380 ft.

TERREBONNE PARISH — Chas. Paggi's Evergreen 2, Houma, shut down. La. Gas & Fuel Co.'s Minor Estate 1, Houma, dr at 1913 ft in sn, sh, and lime. The Texas Co.'s Bay Junop 2, sh at 5990 ft; Dog Lake A-3, gbo and li at 5757 ft; Callou Island State 4, lcn; Callou State 5, salt top 4092 ft, will try to drill thru what they think is a salt ladge to possible production; Lake Pelto State 4, lcn; 5, lcn; 6, capped piling; Bay St. Elaine 1, dk; 5, woc at 620 ft; 6, lcn; Lake Barre 6, lcn; 7, w.o.r. Four Isle 4, sn, w.o. swivel, dr at 6553 ft in sn.

NORTH LOUISIANA

Completions

CLAIBORNE PARISH (Sugar Creek)—
Triangle Drilling Co. et al, J. W. Stevenson 1, 6-19-5w ..... ¶35 4323

DE SOTO PARISH—
Holly Oil Co., Talbot 1, 9-13-13.... * 3004

SABINE PARISH—
Loring Oil Co., Middleton 1, 26-8-12 * 2630
Middleton 2, 26-8-12 ..... * 2630
Tarver et al, Sabine State Bank 4, 25-8-12 ..... * 2892
Loring Oil Co., Bowman-Hicks 13, 2-7-12 ..... * 2450
Sabine Synd., Pearce 1, 10-7-11.... 600 2392
Magnolia Pet. Co., Giaque 1, 26-7-14 * 4014
R. L. Gay, Tr., Bowman-Hicks 8, 18-7-13 ..... * 2552

BIENVILLE PARISH — Triangle Drilling Co. et al's McDermott 1, 28-18-6w, 6⅝ cas 2174 ft, whipstocked at 2060 ft, cor shale 2156 ft, td 3160 ft (corrected depth). S. P. Borden et al's Thomas 1, 27-16-9w, 7-inch cas 4033 ft, coring 4085 ft. Carter & Dobbs' White 1, 9-18-6w, sd wo fuel 2262 ft. Olds & Smith Brice 1, 15-16-6w, top Cane River 530 ft, 6⅝ cas 2156 ft, td 2230 ft.

BOSSIER PARISH—Andrews & Davlin's Nattin 1, 15-22-14, 8-inch cas 1471 ft, sd 1546 ft. H. I. Morgan & Shreveport-El Dorado P. L. Co.'s Hendricks B-11, ne nw 22-19-11, sp dr 50 ft. La. O. R. Corp.'s Bodcaw-Fee B-14, se sw 11-19-11, cor 2190 ft. Rambaugh et al's Allison 1, 10-19-13, dr 1010 ft.

CADDO PARISH—Texas La. P. L. Co.'s Wall 1, 33-23-16, dr hd sandy shale 3770 ft; French 1, sw nw 34-23-16, dr lime 4683 ft. Hunter Land & Inv. Co.'s Fee 1, 32-18-14, no report.

CATAHOULA PARISH—National Drilling Co.'s Marsh McMillian 1, 26-9-6e, arr set 8-in cas, td 2850 ft.

CLAIBORNE PARISH—Triangle Drilling Co.'s Brownfield 1, nw ne 6-19-5w, dr anhydrites 4114 ft. J. W. Stevenson 1, sw se 6-19-5w, 9-inch cas 4060 ft, topped oolitic lime 4302 ft, gauged 35,876,000 cu ft gas 1800 pounds rock pressure, td 4323 ft. Baird Bros. et al's Whittaker 1, 30-20-7w, sd 2200 ft. Bough et al's Alexandria 1, 27-20-8w, sd 2200 ft. Prairie O&G Co.'s F. B. Shackelford 1, se ne 30-23-5w, sp 12½-in at 611 ft. La. O. R. Corp.'s Langston 10, 19-21-7w, sp 12½-in cas 226 ft.

CALDWELL PARISH—Hudson et al's Burton 1, 36-12-2e, sd 2230 ft.

CONCORDIA PARISH — Glassell et al's Britton Koontz Nat. Bank 1, 20-8-10e, lcn. Joe Marr et al's Maxwell 1, 35-3-8e, 8-inch cas 2000 ft, dr 3430 ft.

DE SOTO PARISH—Holly Oil Co.'s Talbot 1, 9-13-13, dry abn, td 3004 ft. J. W. Clark's Tidwell 1, 22-13-14, 6⅝ cas 2910 ft, bailed dry, show oil, sd 3084 ft. W. H. Weichert's H. Smith 1, 31-14-15, top gas sand 1653 ft wo cas to test gas show td 1657 ft. Standard Oil Co of La's Dowling Bros. B-1, sw sw 32-14-13, dr 2160 ft. Neff et al's Dowling 1, se se 18-13-14, 10-in cas 42 ft. S. A. Guy et al's Dowling Bros. 1, 31-14-14, sd 1354 ft. Ark. La. P.L. Co.'s Johnson 3, 1-11-14, tested dry thru ds 3090 ft. dr 3098 ft.

LA SALLE PARISH—La. G&F Co.'s Tensas-Delta B-2, sw ne 23-7-4e, lcn.

NATCHITOCHES PARISH—Gulf Ref. Co.'s Bodcaw Lbr. Co. 1, sw ne 13-13-8w, sp. W. M. Coates et al's Collins 1, 28-9-10, base chalk 2612 ft dr 3700 ft. J. W. Cooper et al's Copper 1, 35-11-10, dr 1560 ft. Copper 2-A, 35-11-10, fsh ds 1150 ft.

RED RIVER PARISH—Lucky Strike Oil Co.'s Chaffraix 1, 33-12-10, cor 2870 ft. T. G. Shaw's Wilkinson 1, se se 4-12-10w, 6-in cas 2240 ft, 700 ft oil hole wosr td 2838 ft.

RICHLAND PARISH—W. C. Feazel's Landrum 1, 6-16-7e, dk. Island O&G Co.'s Noe 1, 3-16-5e, 6-in cas 2350 ft, top Monroe gas rock 2365 ft, sd in shale 2630 ft.

SABINE PARISH — Magnolia Pet. Co.'s Gique 1, 26-7-14, dry abn td 4014 ft. McDaniels et al's Batson 2, 16-8-12, 6⅝-in cas 2190 ft, bailed dry 2440 ft, fsh ds td 2460 ft. Loring Oil Co.'s Middleton 1, 26-8-12, set 6⅝-in cas 2329 ft, dry abn td 2630 ft. Middleton 2, 26-8-12, 6⅝-in cas 2332 ft dry abn td 2630 ft. Lacey Jesup Oil Co.'s Brown Lbr. Co. 1, se ne 28-8-10, dr 1750 ft. Lacey Prod. Co.'s W. M. Cooper 1, 30-8-11, sp dr 1400 ft. Cooper 2, nw sw 32-8-11, dk. A. H. Teat's Craig 1, ne ne 25-8-12, top marl 2329 ft, 6⅝ 2329 ft, bailed dry wo td 2530 ft. Eylers O&G Co.'s Fraser 1, nw sw 10-8-11, dr 1530 ft. R. L. Gay, Tr.'s, Bowman-Hicks 8, 18-7-13, dry abn td 2552 ft. Bowman-Hicks 9, ne sw 18-7-13, 6⅝ cas 2187 ft, dr 2250 ft. Sabine Lbr. Co. A-1, se ne 1-7-12, rig. D. H. Reddick et al's Scretchfield 1, 18-9-12, sd 3310 ft. Paramount O&G Co.'s Woolums 1, 11-6-12, 6-in 2310 ft top Zwolle chalk 2776 ft, dry sd 2782 ft. Zeke Lchman's Wyatt Lbr. Co. 1, 18-4-11, partly rigged up wo. Lohman & Walker's Hubley 1, 21-7-11, top marl 2461 ft, 6-in cas 2432 ft, sd 2490 ft. Pelican Nat. Gas Co.'s La. Long Leaf 6, nw sw 4-7-11, dr 1490 ft. Sabine 6, dr 1891 ft. Philp et al's Turner 1, nw nw 4-7-11, lcn. Loring Oil Co.'s Bowman-Hicks 13, 2-7-12, 6⅝ cas 2290 ft, dry abn td 2450 ft. Texas Co.'s Maines et al 1, ne se 5-7-11, 6⅝ cas 2283 ft, dry at 2286 ft, bailed in flowing est 400 bbls oil by heads td 2341 ft. Longeria et al's Belton 1, 31-9-12, rig. Franks et al's Hays 1, 22-8-11, sd 1325 ft. Davis M. Lide's Ponder 1, 15-7-11, top marl 2393 ft, top chalk 2407 ft 6-in 2385 ft, sd 2800 ft. Sabine 1, 12-7-12, rig. W. M. Coates' Sabine 1, 17-12, 6⅝ at 2185 ft. Wilson & Sons' Gandy-Garrett 1, 4-5-12, dr 1740 ft. Toteco Oil Co.'s La. Long Leaf 1, 18-6-12, 6⅝ cas 3965 ft, cemt off sw at 4077 ft, dr lime and shale 4137 ft. Tom David's Smith 1, 27-8-10, dr 2025 ft. Merritt et al's La. Long Leaf 1, 33-8-11, arr set 6-in cas 2245 ft. Standard Oil Co. of La.'s Bowman-Hicks 1, 25-8-12, top marl 2360 ft, set 6⅝ cas 2350 ft, dr 2616 ft. Tarver et al's Sabine State Bank 4, 26-8-12, 6⅝ cas 2324 ft, dry abn td 2892 ft. Baker 1, nw ne 36-8-12, rig. C. W. Robinson's Trammell 1, ne ne 5-7-11, lcn. Jno. Woodley's Sabine 1, ne se 12-8-12, lcn. H. W. Perritt's Bowman-Hicks 1, 2-7-12, dr shale 2140 ft. Sabine Synd's Pearce 1, 6-in 2290 ft, flowing 600 bbls oil day td 2392 ft. R. B. Whittle's Lbr. Co. 1, sw sw 38-8-12, dk. J. W. Clark's Lites 1, se nw 34-8-11, dk, pat. Frank Melat's Sabine 1, ne sw 6-7-11, dr 1955 ft. Sabine 2, ne nw 14-7-12, lcn.

TENSAS PARISH—Seip et al's Fowler 1, 10-10-10e, sd 905 ft. A. R. Willis' Curry 1, 39-11-12, sd 2780 ft.

WEBSTER PARISH—Gerhig Co.'s Miller 1, (formerly carried Fee 1), ne sw 16-18-10, rig. D. H. Doyle's Frazier 1, ne se 27-23-11, dk.

ARKANSAS

Completion

UNION COUNTY—
Marine Oil Co., P. Winn Est. F-1, 10-18-13 ..... 100 3604

CHICOT COUNTY—H. R. Smith's Lytle 1, 13-18-3, fsh, td 2925 ft.

CLAY COUNTY—S. C. Jeffus, Tr.'s, Underwood 1, nw se 4-20-8, 10-inch cas 303 ft, sd 330 ft.

CLEBURNE COUNTY—Donnell et al's Fee 1, 33-11-19, sd wo cas, td 3640 ft.

COLUMBIA COUNTY—J. W. Olvey et al's Kate George 1, nw sw 19-18-20, dr 2960 ft.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-3n-19w, setting 5 3/16-inch cas on bottom, td 3756 ft (corrected depth).

HOT SPRINGS COUNTY—John Watkins, Tr.'s, Cunningham 1, 11-5-16, sd 100 ft. Cleary Bros. et al's Hinson 1, 19-4s-16w, dr 1375 ft.

JOHNSON COUNTY—Ark. La. P. L. Co.'s Kelly 1, sw se 14-10-24, dr black shale 2885 ft; Hudson 1, se se 14-10-24, dr hard sand 1470 ft. Blackwell O&G Co.'s Wyver 1, 21-8-23, sd 5600 ft. River Valley Dev. Co.'s Collier 1, se se 21-9n-25w, sp dr 20 ft.

LA FAYETTE COUNTY—Crawford Drilling Co.'s Vaughan 1, 25-19-25, rig up. McIver et al's Hattie 1, nw ne 1-20-26, sd 20 ft.

LAWRENCE COUNTY — Marguerite Dev. Co.'s Broadway 1, 31-17-1, sd 45 ft.

LITTLE RIVER COUNTY—Buck Oil Co.'s Taafe 1, 25-12-32, sd 2505 ft.

LOGAN COUNTY—Ark. La. P. L. Co.'s Jansen 1, ne ne 35-8-24, dr 260 ft. M. W. Greesom's Parks 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-5-26, ur 5 3/16-inch cas 3570 ft, td 3610 ft.

MADISON COUNTY—J. W. Baxter's Hallem 2, cent sec 17-16-26, sd 405 ft; Hallem 3, ne sw 1-17-26, sp dr 12 ft.

MILLER COUNTY—E. & F. Oil Co.'s E. L. Beck 1, 36-15-26, 6⅝ cas 2792 ft, short string 4½ cas 4 ft sand, td 2951 ft. Lenz et al's Johnson 2, 24-15-26, coring 3172 ft; Johnson 3, ne nw 24-16-26, coring 910 ft. Bullock Oil Co.'s Hervey 1, 2-15-26, dr 1600 ft. East Texas O&G Co.'s Hervey 1, 2-15-26, sd wo 8-inch cas 900 ft. O'Mara et al's Person 1, 31-15-25, lcn. Fitzwater et al's Beck 1, sw se 33-15-26, 10-inch cas 85 ft, sd wo. Salzer & McRae's Ross 1, ne nw 9-16-26, 10-inch 98 ft, dr 450 ft.

OUACHITA COUNTY — Belmont et al's Dean 1, 16-15-17, top red beds 2765 ft, fsh bit and collar, td 2907 ft. A. B. Turner, Tr.'s, Brown 1, 23-15-18, dr 1910 ft (sec. hole) Graves et al's Walker Trustee 1, sw sw 9-14-18, top Nacatosh 1352 ft, 6⅝ cas 1845 ft, pumped 50 bbls fluid daily 90 per cent sw from sandy shale 1869-73 ft, pulling tub to deepen, td 1873 ft. Copenhaver et al's Elliott 1, se se 11-15-17, sd for boiler reprs 1460 ft.

PIKE COUNTY—Henderson et al's Tilyou 1, 26-8-24, show heavy oil 567 ft, dr hd lime 1831 ft. E. R. Henderson's Lee 1, sw se 31-8s-24w, dk.

POPE COUNTY—Ark. La. P. L. Co.'s McFadden & Brooks 2, ne sw 15-9-21, 13⅜ cas 1900 ft, dr hard shale 2250 ft.

SCOTT COUNTY — Heavener O&G Co.'s Reser 1, 36-4-26, sdtr tools at 1436 ft, td 1536 ft. Ark. Valley Gas Co.'s Turner 1, se se 27-5n-30w, lcn.

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29w, tested sw sd, td 3515 ft. Lavaca O&G Co.'s Davis 1, nw ne 29-8-30, 8-inch cas 200 ft, dr 2525 ft.

UNION COUNTY—Hickman et al's Hogg 1, 35-16-17, top Graves sand 2351 ft, dr 2604 ft. Marine Oil Co.'s W. B. Thompson A-5, sw ne 10-18-13, dr 2900 ft. P. Winn Est. F-1, 10-18-13, pumping 1000 bbls fluid 90 per cent sw 100 oil, set 6⅝ cas 3595 ft, td 3604 ft. Oilfields Corp. s J. A. Simmons 1, nw nw 13-18-13, coring 3553 ft. Rice et al's Whatley 1, 7-17-15, dr 1500 ft. Malloy & Co.'s Burns 7, nw nw 31-17-15, 8¼-inch cas 2148 ft, pumping wo gauge, td 2213 ft. J. E. Crosbie, Inc., et al's G. L. Murphy 1, sw nw 13-16-16, pumped 100 bbls fluid daily, 50 per cent sw, 5 ft sand 2735-40 ft, dr deeper, dr 2746 ft. H. L. Hunt, Inc.'s, Swilley 5, ne ne 28-16-16, 6⅝ cas 2678 ft, 2000 ft oil trace sw in hole, wosr, td 2689 ft; Swilley 6, se se 21-16-16, sp 12-inch cas 102 ft, dr 1015 ft.

WASHINGTON COUNTY—Taylor et al's Runny 1, 1-13-29, dr 1400 ft. Lincoln Lease Holding Synd.'s Townsite 1, 30-15-32, ta 1500 ft. C. H. Willoughby's Jones 1, 34-16-30, sd 2150 ft. O'Hara & Shetterley's Boyd 1, 12-16-32, ta 850 ft. Delbert Graves' Cunningham 1, 14-15-32, sd in gray sand 602 ft.

VAN BUREN COUNTY — J. S. Martin's Scanland 1, 5-9-13, sd 50 ft.

YELL COUNTY—T. Luckett's Balcon 1, 36-7-21, sd while fsh tools, td 5710 ft.

MISSISSIPPI

Completion

HINDS COUNTY, (Jackson Dist.)—
Hawkeye Gas Co., Webster 1, ne nw 15-5-1e ..... ¶15 2478

ALCORN COUNTY—Alcorn Pet. Co.'s Matthews 1, se se 14-2s-7e, fsh td 2735 ft.

ATTALA COUNTY—Ark. La. P. L. Co.'s Moore 1, se nw 2-15n-5e, top Selma chalk 2277 ft, dr chalk 2330 ft.

CLAY COUNTY—Ohio Oil Co.'s Cantrell

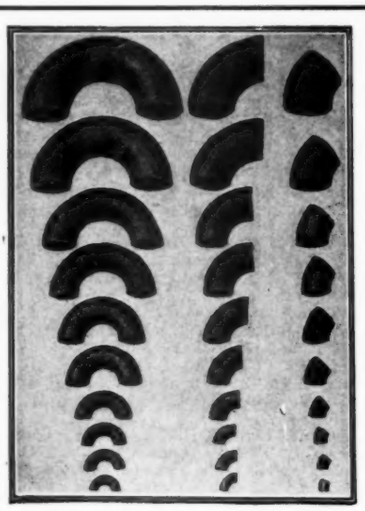
1, ne ne 16-15-5e, elev 270 ft 13 3/8 cas 1389 ft dr black sandy shale 2210 ft.

COVINGTON COUNTY, (Collins Dist.)—Miss. Gulf O&G Co.'s Fee 1, 36-8n-16w, lcn.

CHICKASAW COUNTY—Hightower & Golson's Fleming 1, 30-13-3, driving 8¼-in cas at 1534 ft.

GRENADA COUNTY—Carter Oil Co.'s Dubard 1, nw nw 18-22-4e, dk.

HINDS COUNTY, (Jackson Dist.) — Mrs. Ella Rawls Reeder's State Land 1, sw nw 25-6-1e, sd 2905 ft. Jackson O&G Co.'s Central Cotton 1, sw nw 3-5-1e, dk. Love Pet. Co.'s Morton 1, sw sw 34-6-1e, 15½ 47 ft, dr 1750 ft. Maley 1, se nw 15-5-1e, elev 257.3 ft, top Midway shale 2387 ft, top Midway chalk 2487 ft, 6⅝ at 2487 ft, making gas sw and scum of oil around 4-in tub td 2495 ft. Miss. Tex. Oil Co.'s Negro Fair Assn. 1, nw se 28-6-1e, top Midway shale 2420 ft, 6-in 2379 ft, sd wo 2479 ft. Southern Pet. Co.'s Wilson 1, se ne 23-6-1e, dk, (formerly Tri-State O&G Co.) Universal O&G Co.'s Holliday & Ross 1, nw sw 8-6-2e, ta 2653 ft. Sharbrough 1, sw se 28-6-1e, 10-in 88 ft wo. Miss. Pet. Co.'s Solvent 1, sw sw 14-5-1w, arr resume dr at top of rock 2710 ft.



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Baptist Orphanage 1, se se 28-6-1e, set 6⅝ cas 2481 ft, top Midway shale 2422 ft. Hawkeye Gas Co.'s Webster 1, ne nw 15-5-1e, elev 269.6 ft, top Midway shale 2375 ft, top Midway chalk 2474 ft, set 4½-in cas 2478 ft, making 15 mil ft gas td 2478 ft. Howard Oil Co.'s Jackson College 1, nw nw 9-5-1e, rig. Atkinson et al's Wiggins 1, nw ne 33-6-1e, dk. Kennedy et al's Fee 1, ne ne 34-6-1e, lcn. Gulf Ref. Co.'s McLaurin 1, sw ne 30-6-2e, arr set cas around 2300 ft. Cane River O&G Co.'s Kabbes 1, ne sw 15-5-1e, top Midway shale 2435 ft, top Midway chalk 2541 ft, 7-in cas 2541 ft, elev 262 ft, swabbing sw show gas arr deepen td 2548 ft.

JASPER COUNTY, (Bay Springs Dist.)—Bay Springs Pet. Inc., J. H. Keyes 1, nw ne 21-2n-10e, mov in rig.

KEMPER COUNTY, (De Kalb Dist.)—W. W. Jones' Rosenbaum 1, lcn not given, dk.

LA FAYETTE COUNTY—F. E. West et al's May 1, 22-10-1w, rig up wo.

MADISON COUNTY, (Jackson Dist.)—Miss. Pet. Co.'s Raymond 1, nw sw 32-7-2e, 12½ set at 706 ft, sd wo.

MONROE COUNTY, (Amory Dist.)—Amory Dev. Co.'s Bourland 1, 2-13-19, sd in brown sand 3007 ft. P. J. McAlpine's Cowart 1, ne sw 2-12-19, dr slate 550 ft. Associated Royalties' School Board 1, sw se 16-15-17, sd 60 ft. Amory Pet. Corp.'s Harris 1, nw nw 18-13s-17w, dk. Carter 3, se se 7-13s-17w, 10-in 564 ft, dr hd sand 1230 ft.

RANKIN COUNTY, (Jackson Dist.)—Feazel O&G Co.'s Cox 1, 12-5-1e, dk. Sabine O&G Co.'s Rankin Dev. Co. 1, sw ne 6-5-2e, elev 273 ft, dr rock 1360 ft. Gulf Ref. Co.'s Hamilton Est. 1, sw sw 4-5-2e, elev 284 ft top Midway shale 2537 ft, top Midway chalk 2620 ft, 9-in cas 2610 ft, coring 2857 ft. Love et al's Muse 1, se se 32-7-4e, dk. Pioneer O&G Co.'s Graves 1, nw se 12-5-1e, top Midway shale 2301 ft, 6⅝ cas od in shale 2383 ft, top chalk 2391 ft, bgl to test showing much gas td 2402 ft. Wallace O&G Co.'s Cobb 1, se ne 12-5-1e, elev 269.6 ft, top Midway shale 2290 ft, set 6⅝ cas 2375 ft. Southern Pet. Co.'s Ivy 1, ne sw 12-5-1e, elev 270 ft, rig up. Love Pet. Co.'s Moore 1, se nw 28-6-2e, sd 900 ft. Millstein O&G Co.'s Gammill-Hartfield 1, sw se 6-5-2e, rig up.

WARREN COUNTY, (Vicksburg Dist.)—Dixie Pet. Co.'s Clark 1, sw sw 31-17n-5e, dk. Vicksburg O&G Co.'s Dornbusch 1, sw ne 8-18n-5e, dr 1575 ft.

WEBSTER COUNTY—Cumberland Oil Co.'s Henley 1, 15-21-11, ta 1865 ft.

WINSTON COUNTY, (Louisville Dist.)—Miss. Drilling Co.'s Scarbrough 1, nw nw 15-13n-14e, dr chalk 1620 ft.

YALABOUSHA COUNTY, (Water Valley Dist.)—J. D. Collett et al's Blackmer 1, sw ne 14-11s-4w, recover 1390 ft, 6-in dr pipe frozen in hole fsh for pipe (erroneously reported jnked abn), td 2434 ft.

ALABAMA

HOUSTON COUNTY—J. R. Sealey's Fee 1, 13-1n-27e, changing from cable tools to rotary td 3100 ft..

MORGAN COUNTY—Albany-Decatur O&G Co.'s English 1, 6-6-4, fsh cas 4130 ft.

SUMTER COUNTY—B. W. Bates' Fee 1, 3-18-1w, ta 1200 ft. Fee 2, 3-18-1w, rig up wo.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, sd in limey shale 881 ft. Hobson Bros. 1, 9-8-2w, sd 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2w, sd 700 ft.

TENNESSEE

DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, dr hd lime 2015 ft.

OKLAHOMA

WOODS COUNTY—R 27n, R 16w, Sec. 33, Sinclair, Share 1, e ne sw, hfw 7160-7280 ft, td, pb shot 100 qts. 5080-5100 ft, 3500 ft water in hole, shot 80 qts 4889-95 ft, bridged, co.

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros., Forbes 1, ne c se nw nw, sd 1420 ft.

KAY COUNTY—T 27n, R 2e, Sec. 9, Mumner et al, Sornick 1, nw c se, spd and sd. T 27n, R 2e, Sec. 17, Blankenship et al, Hansen 1, sw nw sw, shot 10, 20, 40 qts 3587-97 ft, pump 15 bbls.

GRANT COUNTY—T 26n, R 5w, Sec. 25, Bu-Vi-Bar et al, Hurst 1, c sw, show oil and wtr 5215-18 ft, hfw 5877 ft, to abandon.

KAY COUNTY — T 26n, R 1w, Sec. 32, Boucher et al, Jefferson 1, ne c sw, run 12-in, 1175 ft.

HARPER COUNTY—T 25n, R 20w, Sec. 12, Empire, Bruce 1, sw c ne ne sw, slight show oil 7161-73 ft sd 7795 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden, Vollmer 2, ne c se ne sw, lost tools sd 5640 ft.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, J. V. Bailey et al, Acre 1, c sw ne, sd 4660 ft.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer, White 1, se c nw, sd 5825 ft.

NOBLE COUNTY—T 21n, R 1e, Sec. 12, Barnsdall et al, Minks 1, nw c sw, dr 3035 ft.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma Pet. Co., Phillips 1, c nw sw, dr 4170 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healey & Consolidated Drlg. Co., Quier 1, se c sw, sd 3970 ft. T 17n, R 4w, Sec. 34, Eason Oil Co., Katchor 1, sw c ne sw, sand 4918-42 ft flowed 680 bbls aver 380 bbls for past week. T 17n, R 2w, Sec. 24, Slick, Ramsey & Prairie, Jones 1, c se nw coring 5625-31 ft.

KINGFISHER COUNTY — T 16n, R 7w, Sec. 6, Gault-Brown, Boch 1, c nw se, (owdd) dr 7075 ft. T 15n, R 5w, Sec. 23, Prairie & Slick, Wright 1, c nw sw, dr 6745 ft.

OSAGE COUNTY—T 28n, R 7e, Sec. 4, L. G. Stanley et al, 1, se c sw, rigging up.

PAWNEE COUNTY—T 23n, R 5e, Sec. 15, Cochran et al, McFadden 1, ne c sw, rig. T 22n, R 3e, Sec. 26, Wentz Oil Corp., Lillie 1, se c sw ne, dr 3143 ft. T 22n, R 5e, Sec. 2, Sherry et al, Milsap 1, se c sw, dr 920 ft. T 20n, R 5e, Sec. 1, Flynn, Morgan et al, Freeman 1, nw c hfw 3645-78 ft sd.

LINCOLN COUNTY—T 13n, R 6e, Sec. 8, Atlantic, Beebe 1, sw c ne sw, lcn.

OKFUSKEE COUNTY—T 12n, R 9e, Sec. 3, Tulsa Oil Co., et al, Davis 1, se nw sw, hfw 2765-80 ft. show oil and water 3295-3312 ft. dr 3515 ft. T 12n, R 9e, Sec. 36, Henry Oil Co., Harjo 1, nw c Wilcox 4124-57 ft water pb 2300 ft. T 12n, R 10e, Sec. 3, Shepperd et al, Sheppard 1, se nw sw, sd 3690 ft.

MUSKOGEE COUNTY—T 11n, R 19e, Sec. 21, E. Mills et al, Martin 1, nw c se, sd 1001 ft.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al, McDuff 1, sw c nw se, dr 5620 ft. T 8n, R 14e, Sec. 14, C. D. Cannady, Smith 1, nw c, rig T 7n, R 13e, Sec. 18, Apex Oil Co., Walker 1, nw c se, 12 gas 975-1095 ft td 1455 ft.

OKLAHOMA COUNTY—T 14n, R 3w, Sec. 32, Mid-Kansas, Messer 1, sw c, shot 90 qts 6690-6760 ft shot 170 qts flow 425 bbls. shut in. T 12n, R 4w, Sec. 17, C. F. Cuniff, Trustee, St. Joseph Orphanage 1, sw ne sw se, sd 6700 ft td.

McCLAIN COUNTY—T 7n, R 2w, Sec. 22, Prairie & Slick, Perkinson1, sw c nw, dr 5405 ft.

CLEVELAND COUNTY—T 6n, R 1e, Sec. 20, Harris & McNeal, Corbett 1, c sw ne, td 6518 ft slight show oil and water, sd.

OKFUSKEE COUNTY—T 11n, R 8e, Sec. 11, Carter et al, Keys 1, sw ne sw, td 4025 ft. 2500 ft oil in hole.

POTTAWATOMIE COUNTY—T 10n, R 4e, Sec. 10, Shell, Baker 1, nw c se, lcn.

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SEMINOLE COUNTY—T 10n, 6e, Sec. 19, Bunte et al, Bruner 1, se c nw, rig.

POTTAWATOMIE COUNTY—T 9n, R 4e, Sec. 14, C. F. McGee et al, Eckridge 1, se c nw, lcn. T 7n, R 3e, Sec. 19, Droppleman & Burke, Fundis 1, se c ne, dr 4555 ft. T 6n, R 5e, Sec. 5, Robinson & Hicks, Crouch 1, nw c sw, 6-in 4140 ft.

HUGHES COUNTY—T 6n, R 9e, Sec. 20, Gilcrease Oil Co., Deere 1, ne c sw, dr 995 ft.

MILLS COUNTY — T 13n, R 21w, Sec. 10, Richfield O&R, Hiatt 1, se c rig. T 12n, R 24w, Sec. 23, Bucy & Stone, Williams 1, c sw, sd 2243 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey, Robinson 1, c ne nw, sd 150 ft.

CADDO COUNTY—T 9n, R 13w, Sec. 18, J. J. Wright & Shell, Boys 1, ne c, lcn.

GREER COUNTY—T 7n, R 22w, Sec. 1, Roy Good et al, Cliffel 1, nw c sd 1265 ft. T 7n, R 21w, Sec. 23, H. A. French et al, Murphy 1, sw nw se, sd 600 ft.

CADDO COUNTY—T 6n, R 11w, Sec. 24, Simms & J. R. Wrightsman, Cobza 1, sw c nw, dr 3980 ft.

HARMON COUNTY—T 4n, R 24w, Sec. 17, Harmon-Tex. Oil Co., Headley 1, ne c, sd 2593 ft.

COMANCHE COUNTY—T 3n, R 9w, Sec. 3, Okla. Nat. Gas Co., Doebel 1, ne c sw sw sw, sd 1450 ft.

HUGHES COUNTY—T 5n, R 10e, Sec. 30, Erwin et al, Jones 1, se c ne, 4275 ft, sd. T 5n, R 11e, Sec. 15, J. J. Wright, Roberts 1, se c sw, sd 1645 ft.

COAL COUNTY—T 3n, R 9e, Sec. 26, Blackwell, Gumm 1, nw c, dr 5030 ft.

ATOKA COUNTY—T 3s, R 10e, Sec. 18, Brookshire et al, Guinn 1, nw c, show gas 3607-2 ft, sd 500 ft.

CARTER COUNTY—T 4n, R 2e, Sec. 32, Tex-Okla. Drlg. Co., Anderson 1, c se ne se, dr by pipe 2400 ft, td 2580 ft.

LOVE COUNTY—T 6s, R 3w, Sec. 20, Harry Hobbs, Steele 1, sw c ne ne sw, sd 3130 ft.

BRYAN COUNTY—T 6s, R 7e, Sec. 14, W. A. Jonhson, Ussery 1, se c, sd 325 ft.

BRYAN COUNTY—T 6s, R 9e, Sec. 35, C. P. Bush, Commerce Trust Co. 1, ne c, sd 600 ft. T 7s, R 10e, Sec. 8, Bryan Oil Co., Childs 1, ne c se sw, sd 475 ft.

NORTH CALIFORNIA

Completions

TULARE COUNTY—
Larson Oil Co.'s Best 2, 11-23-27... * 60

KERN COUNTY—
Shell's Porter-Day 1, 29-30-29.....1000 5962

KERN COUNTY

BELRIDGE—Belridge Oil Co.'s No. 24, 27-27-20, new lcn. General Pet.'s Berry 1, 30-28-21, dr shale 3405 ft. Ohio's Bloemer 1, 36-27-20, 18⅝-in cas cmt 1012 ft. Reward Oil Co.'s Associated 1, 34-27-20, dr shale 500 ft. Richfield's Belridge 1, 22-27-20, coring oil sand 5805 ft, will run 9-in. cas to 5775 ft and make production test. Standard's McPhail 1, 36-27-20, rigging up; McPhail 2, lcn. The Texas Co.'s Martin 1, 22-27-20, dr shale 1020 ft. Union's Bacon 1, 27-28-20, lcn; Belridge 17, lcn. K. C. Wallace's Belridge 1, 32-29-21, dr shale 3828 ft.

BUENA VISTA HILLS—Federal Drilling Co.'s No. 1, 20-31-24, dr shale 4250 ft. Midland Exploration Co.'s No. 1, 34-31-24, lcn.

BUTTONWILLOW—Nordon Oil Corp.'s Salisbury 1A, 7-29-24, dr shale 5210 ft. Superior's KCL-1, 32-29-25, rigging up.

DEVILS DEN—Standard's Alferitz 1, 14-25-18, dr shale 1115 ft.

EDISON—Petroleum Securities Co.'s Johnson-Moss 1, 14-29-29, dr shale 3478 ft.

EL TEJON—J. J. Ritchie's No. 1, 33-11-19, fsh for drill pipe, td 4870 ft.

PATTIWAY—H. A. Bardeen's Ramsey 1, 10-10-23, dr shale 4265 ft.

SEMITROPIC—Shell's Williams 1, 17-27-23, coring 7919 ft.

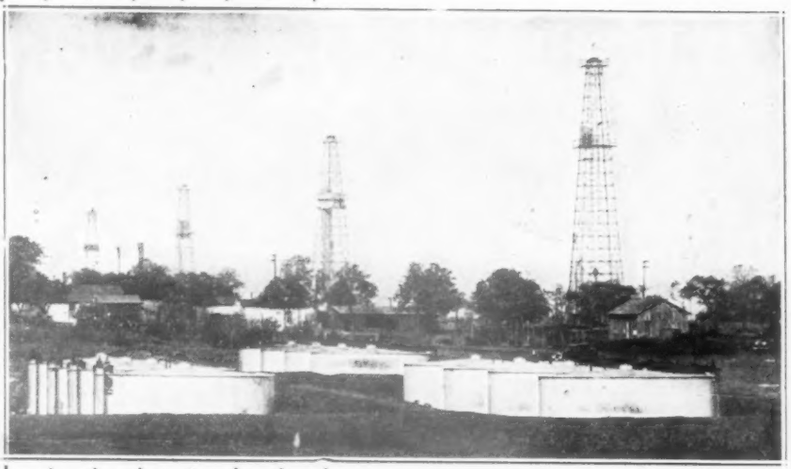
WEED PATCH—Mohawk Oil Co.'s Wharton 1, 32-30-29, dr shale 3588 ft. Shell's Porter 1, 29-30-28, dr shale 2545 ft.

SANTA BARBARA COUNTY

CAMPBELL'S POINT—Bolsa Chica Oil Corp.'s Augur Permit 191-1, 24-4-9, dr hard brown shale 3440 ft.

GATO RIDGE—Barnsdall's Tegnazzini 1, 9-8-32, will deepen from 5400 ft.

GOLETA—General Pet.'s More 3, dr hard



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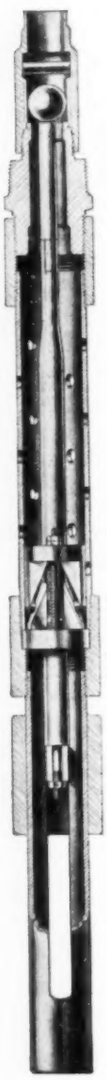

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brown shale 2940 ft. George W. Johnson's Duncan 1, dr hard sand 4040 ft.

LOS ALAMOS—N. S. Wilson's No. 1, 2-7-33, dr shale 1572 ft.

NAPLES—J. H. Cochran's No. 1, 7-4-29, fsh for slip 4535 ft.

ORELLA—General Pet.'s Erburu 8, 32-5-30, dr shale and streaks oil sand 3160 ft; Erburu 9, lcn; Erburu 10, lcn.

POINT CONCEPCION—Standard's Gerber 1, dr hard gray sand 6718 ft.

PURISIMA—Vaqueros Major Oil Co.'s Union Annex 4, 6-7-33, lcn.

SANTA MARIA—O. C. Fields Gasoline Co.'s Bradley 1, 8-9-33, dr out cmt below 6⅝-in cas at 5025 ft, td 5267 ft. Western Gulf's Bradley 1, 5-9-33, dr shale 4715 ft.

VENTURA COUNTY

LOCKWOOD VALLEY—Lockwood Valley Oil Co.'s No. 1, 32-8-21, dr shale 200 ft.

OJAI—Knudsen-Schmidt Co.'s No. 1, 12-4-23, dr 100 ft.

RINCON — Chanslor-Canfield Midway Oil Co.'s Hobson A-2, 23-3-24, m 7520 ft.

SANTA MONICA MOUNTAINS—Olympic Corp.'s Calabasas 1, 18-1-17, fsh for drill pipe 5670 ft.

SANTA PAULA—George C. Thompson's No. 1, 15-4-21, co 2360 ft, will deepen.

SESPE—Merchants Pet. Co.'s Cochran 1, 1-4-20, rigged to sp. Superior Oil Co.'s Kirtlan 1, 15-4-21, dr shale 2710 ft.

SOUTH MOUNTAIN—Ring Pet. Corp.'s Converse 1, will deepen from 4910 ft.

VENTURA—Prairie Oil and Gas' Sexton 1, 30-3-22, 9-in cas cmt 7327 ft, td 7518 ft.

MISCELLANEOUS

FRESNO COUNTY—Associated's Jacalitos-Mitchell 1, dr gray sand 2575 ft. Hornaday and Huggins' No. 1, 32-14-18, fsh 5050 ft.

KINGS COUNTY—L. W. Seymour's No. 1, 10-23-16, fsh 900 ft. Thos. H. Purman's Avenal 1, 36-23-16, rigged up to sp. Murphy Oil Co.'s Brennan 1, dr shale 1375 ft.

MENDOCINO COUNTY—Twin State Oil Co.'s Soldani 1, 14-12-17, dr shale 5100 ft.

MONTEREY COUNTY—Standard's Piedmont 1, 23-22-7, dr hard sand 5700 ft.

SAN LUIS OBISPO COUNTY—C. J. Schilling's Potter 1, 1-29-12, cmt 12½-in cas 855 ft. Paso Robles Synd.'s Emerick 1, 34-27-11, will make production test, td 3910 ft. Miracle Oil Co.'s No. 1, 17-10-25, rigging up. Continental's Hellman 1, 26-25-11, dr shale 1435 ft. Latin American Pet. Co.'s Whitley 1, 31-27-15, swabbing water, td 4505 ft. Texas Pacific Coal and Oil Co.'s No. 1, 25-32-14, sdtr iron, td 4430 ft.

TULARE COUNTY—Big Four Drilling Co.'s No. 1 29-23-27, pulling 6¼-in cas, td 4330 ft. Ducor Pet. Co.'s Zimmerman 1, 14-24-27, fsh 2180 ft. Enterprise Oil Co.'s Dennis 1, 29-23-28, dr shale and slate 678 ft. Kettleman East Side Trust's No. 1, 21-22-27, dr shale 950 ft. Paul M. Lewis' No. 1, 15-22-27, plugging back from 1120 ft. Roetner Oil Co.'s No. 1, 34-22-27, dr shale 1500 ft. Terra Bella Drilling Co.'s Rusling 1, 34-22-27, co 925 ft. Inland Valley Oil Co.'s Smith-Rea 1, 24-17-24, sr 2060 ft.

YOLO COUNTY—George F. Getty's Guinda 1, 23-12-3, sd 2007 ft.

SOUTHERN CALIFORNIA

Completion

Company, Well and Location	Initial Production Bbls.	Depth
POMONA—		
Lamona Oil Assn's San Jose 1....	*	970

ATHENS—McKeon Oil Co.'s Heights 1, 1-3-14, sd 560 ft.

BELL—Cudahay Community Oil Assn.'s No. 1, rigging up rotary.

CORONA—Western Gulf's Abacherli 1, dr shale 717 ft.

CULVER CITY—Taylor Oil Co.'s No. 1, rigging up rotary.

FULLERTON—Standard's Bastanchury 1, dr shale 7121 ft.

HAWTHORNE—C. L. Wood's No. 1, new lcn.

HERMOSA—California Ventura Oil Co.'s Sadler 1, dr shale 3112 ft; Sadler 3, lcn. Westwood Pet. Co.'s No. 1, rig. George Wolfe's Hermosa 1, rig.

NEWHALL—Consolidated Oil Co.'s Hammond 1, dr hard sand 2240 ft. Dudley-Newhall Syn.'s No. 1, co 1806 ft. Southern California Drilling Co.'s Needham 4, making production

test, td 3505 ft. York and Smullin's Clampitt 5, dr out cmt 985 ft.

NEWPORT—Standard's Irvine 1, dr hard sand 2808 ft.

PLAYA DEL REY—Olympic Oil and Realty Co.'s No. 1 dr shale 4585 ft. West Port Oil Co.'s No. 1, dr shale 4955 ft.

POMONA—Lamona Oil Assn.'s San Jose 2, new lcn.

PUENTE—Bardeen Oil Co.'s Barnadette 1, dr hard sand 200 ft. Rio Hondo Pet. Co.'s Rowland 1, pumping about 50 bbls oil, td 3725 ft. C. F. Shannon's No. 1, 6⅝-in cas cmt 4620 ft. Vega Pet. Corp.'s Rowland 1, new lcn. Eldorado Oil Co.'s Baird 1, co 1085 ft.

SAN FERNANDO—San Val Oil Co.'s 1, rigging up rotary. Shell's Andrews 1-1, dr sand 5622 ft.

SANTA FE SPRINGS—Union's Orchardale 1-1, dr brown shale 5876 ft.

SAN JUAN CAPISTRANO—Okay No. 2's Foster 2, dr shale and hard sand 4835 ft.

WYOMING

BIG HORN—Westland Oil, Inc., 24-54-95, gas at 510 ft. Wisconsin Holdings, 5-55-97, sd 665 ft. Yellowstone Pet. Co.'s 1, 7-57-97, td 4080 ft.

CARBON—Producers O&G Co.'s Blivens 1, 32-12-92, ¶5 at 700 ft. Midwest's U. P. 27, 11-20-81, dr 1040 ft. Petroleum Exploration Co. of Calif., 29-23-89, show o and g at 800 feet.

CONVERSE—Converse O&G Co., 27-33-72, sd 2000 ft. Pioneer Oil Co., 5-31-70, to dr new test.

FREMONT—Texas Prod. Co.'s State 1, 36-44-96, to sidetr 304 ft, 6⅝-in cas in hole, td 4483 ft. P. & R, 1, 33-34-92, ream. 4757 ft. Yellowstone Oil Co. 1, 15-39-92, td 185 ft.

HOT SPRINGS—Midwest Ref. Co.'s Weeks 8, 6-44-98, fsg tools 4520 ft.

LINCOLN—Mountain Oil Corp. 1, 36-25-116, sd to clear titles, td 1100 ft.

NATRONA—Summit Oil Co., nw 21-33n-80w, td 600 ft. Midwest 11, nw 32-34n-77w, dr 1860 ft.

NIOBRARA—West Virginia Synd., ne 7-35-62, td 987 ft, cas trouble.

PARK—Resolute Oil Co., 17-27-101, o and g show, 8250 ft, test.

SWEETWATER—Vermillion Oil Co. 1, se 16-12-99, dr bel 3200 ft, carry 8⅝-in.

UNITA—Park City O&G Co., nw 6-15-113, set 6¼-in at 2150 ft, prep to res.

MONTANA

CASCADE—Andover Oil Co.'s Floweree 1, se 20-21-2w, dr 800 ft.

FERGUS—Northern States Oil Co.'s (Bock et al), Woodward 1, se 20-14n-24e, ur to lower 10-in td 1000 ft.

GLACIER—Glacier Oil Co.'s Omsberg 1, nw 33-35-5w, sd 2785 ft. Texas Prod. Co. 1, 13-35n-6w, install control head, td 2835 ft. Fulton Pete. Corp.'s Blackfeet 1, ne 28-36n-12w, wait for fuel, td 850 ft. Hill-O'Neil's Michaels 1, se 28-36-5w, straight crooked hole, dr ahead bel 2200 ft. B&H Oil Co.'s Haines 1, se 2-34-6w, dr 1800 ft. Jeffries-Hoerr, Dawson 1, ne 7-31-12w, sd 2800 ft.

GOLDEN VALLEY—Texas Pacific 1, sw 21-8s-21e, shutt off water 1540 ft.

JUDITH BASIN—Newton-Waddingham, sw 15-16n-10e, dr bel 850 ft.

LIBERTY—Northland O&G Co.'s Yurman 1, 36-33n-6e, sd 3475 ft. Sunburst, McLaren 1, se 9-37-6e, sd 3115 ft. Utopia Oil Co.'s Eleanor Assn. 1, sw 11-33-6e, td 3190 ft. Perkins et al's Brown 1, nw 24-35-4e, sd, tool in hole. Western Natural Gas Co. 1, ne 23-37-4e, try to run cas, td 2065 ft.

POWDER RIVER—Creel et al, 7-8s-50e, set cas 1020 ft.

ROSEBUD—Prairie O&G Co. 1-X, 26-10-39e, wait for motor parts at 1825 ft. Prairie O&G Co. 1, Contract 4, 28-10-38, dr 1100 ft.

TETON—Andover Oil Co.'s Carlson 1, 5-24-4w, stand ready to res 150 ft.

TOOLE—Liquid Gold Oil Co.'s Roberts 1, ne 25-36-12, dr 250 ft. "67" Petroleum Co. 1, nw 29-33-1e, dr 200 ft.

COLORADO

ADAMS—N. M. Slatt's Hill 1, se 27-26-64w, 10-in at 2500 ft.

ARAPAHOE—McDebb Dr. Co.'s Fitzsimons 1, 7-45-55, ready to dr ahead 5692 ft. Merrett

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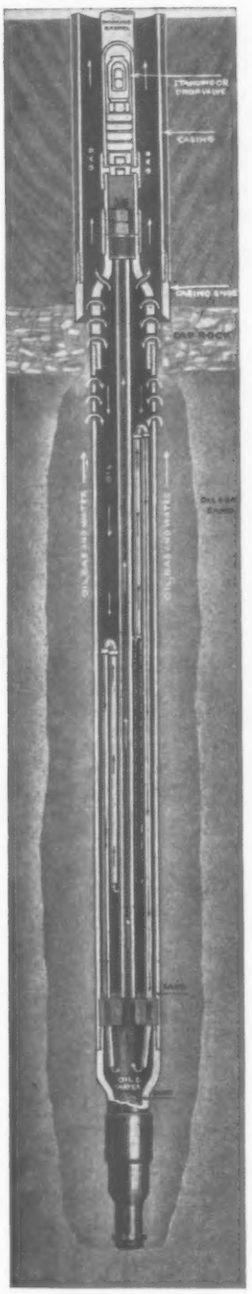

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et al's U. P. 1, nw 17-5s-64w, stand 1600 ft, hfw.

ARCHULETA—Stand. of Colo.'s Fitzhugh 1, se 34-33n-1e, stand 520 ft. Stand. of Colo's Crowley 1, 10-32-2, completed as ¶¼ gasser at 405 ft.

BACA—A. R. Jones Oil & Optg. Co.'s Boice Cattle 1, 22-34s-42w, dr 4100 ft.

ELBERT—Belmont Oil Co.'s Maher 1, sw 4-6s-59w, prep to res 3720 ft.

EL PASO—Utemore Synd.'s Cannon 1, ne 10-16s-66w, stand 1100 ft.

JEFFERSON—Ruby Hill O&G Co.'s Braden 1, se 24-4s-59w, dr 3800 ft.

LARIMER—Smith et al's State 2, ne 36-12-70w, dr 310 ft.

LA PLATA—McGarr Pet. Co.'s Mesa 1, ne 27-33n-12, to shoot show 3300 ft. McGarr Pet Co.'s Pinon Mesa 1, ne 34-33n-12, prep to spud. Klem Pet. Corp.'s Olbert 1, se 9-25n-12w, dr 2760 ft. Murchison Oil Co.'s Doescher 1, nw 9-33n-13w, stand 1225 ft.

LINCOLN—Kelley Oil Co.'s State 1, 26-14n-57w, stand 3415 ft.

MOFFAT—Vermillion O&G Synd. 1, se 23-9n-100w, stand 750 ft. Mtn Fuel Supply's State 2, tract 37-12-100, fsg.

MONTEZUMA—Haller et al's Haller 3, ne 33-36n-14w, prep to deepen from 764 ft.

MORGAN—Ind. Terr. Illum. Oil Co.'s State 1, ne 16-1n-7w, 8¼-in at 3670 ft.

PUEBLO—Kuykendall Oil Corp.'s Boescher 1, 7-22-66, to dd from 1000 ft. Anchor Oil Co.'s Easley 1, sw 35-22s-67w, dr 310 ft.

PARK—So. Park Oil Co.'s Milligan 1, se 13-9s-76w, dr 1600 ft. So. Park O&G Co.'s Esche 1, ne 5-9s-76w, 10-in at 605 ft.

ROUTT—Gorham et al's Omholt 1, 29-4n-87w, ready to spud.

WELD—Platte Valley Pet. Corp.'s Patterson 1, nw 24-6n-61w, stand 6666 ft. Eastman Oil Co.'s Steel 1, ne 14-2n-67w, sd 165 ft.

WASHINGTON—Middlemist Oil Co.'s Middlemist 1, se 14-4s-56w, dr 1672 ft.

NEW MEXICO

DeBACA—Matador Oil Co.'s Wood 1, se 6-4n-20e, dr 3052 ft.

LUNA—Angelus Oil Mining Assn. 1, se 20-21s-10w, dr 5912 ft.

McKINLEY—J. W. Halsell's Santa Fe 1, 17-18-9w, sd 3255 ft. Wms. et al's A.T.S.F. 1, sw 19-18n-8w, dr 1900 ft.

OTERO—Ernest et al 1, se 20-25s-7e, dr 1200 ft.

QUAY—Silverstein et al's Wetzel 1, 29-12n-33e, stand 175 ft.

RIO ARRIBA—Berringer et al's Hartman 1, ne 8-29n-7w, sd 825 ft. San Juan Pet. Co.'s Govt. 1, se 14-30n-7w, sd 250 ft. Governador Oil Co. 1, se 15-29n-7w, dr 740 ft.

SAN JUAN—Dorothy Oil Co.'s Terwilliger 2, 29-30-9w, prep. to res, 1750 ft. Kutz Canon O&G Co.'s Day 1, se 20-28n-10w, stand cem 20⅛ ft. Childers Dr. & Pr. Co.'s Westwater 2, nw 23-31-16w, sd 2525 ft. Rio Grande Dev. Co.'s Lanier 2, 9-29-11w, stand 1380 ft. Continental Oil Co.'s Rattlesnake 24, 1-29n-19w, dr 3755 ft. Murchison Oil Co.'s Angels Peak 4, se 11-28-11, dr 1748 ft. J. B. Witt O&G Co.'s Mangum 1, se 33-29n-11w, mvg in.

SAN MIGUEL—Pioneer O&G Co.'s Thunderbird 1, nw 14-15n-16e, wait 2366 ft. Starr Oil Co.'s Adams 1, ne 25-17n-16e, dr 3372 ft. Cibola Pet. Co.'s Crown 1, se 9-13n-14e, dr 735 ft. Hershfield Dev. Co.'s Cabra Springs 1, ne 2-12n-22e, dr 1460 ft.

TORRANCE—Williams et al's Staplin 1, ne 16-8n-10e, stand 1643 ft. J. B. Witt O&G Co.'s Kutchem 1, 12-17s-7e, dr bel 1230 ft.

VALENCIA—Acme Oil Co.'s N.M.-Ariz, Land Co. 1, 26-6-3, dr 4718 ft. Harlan et al's Harlan 1-A, 5-6n-2e, dr 3900 ft.

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LETTERS

Gentlemen:

We object very emphatically to the first paragraph of your resume printed on page 56 of the November 14, 1930, issue of THE OIL WEEKLY of our paper presented before the recent A. P. I. annual meeting.

You state—

"The use of protective coatings on pipe lines against soil corrosion has proven a waste of money. No matter how thoroughly protected pipe will last only a certain time even in the most favorable sub-soil conditions and will eventually deteriorate to the extent that it must be entirely replaced."

These sentiments are directly opposite to the ones expressed in our paper and are bound to do the pipe coating industry a great deal of harm with readers of your publications who may come across this resume.

We would appreciate your advising why you felt it necessary to put the pipe coating industry in a wrong light and what steps you expect to correct this harmful impression.

UNDERGROUND PIPE PROTECTION INSTITUTE,
W. H. T. THORNHILL,
New York City. *Secretary-Treasurer.*

This error came about through deletion of some important words in copying, as appears from the two succeeding paragraphs of the resume to which reference is made. The paragraph should have read (the italics including the words which change the meaning):

"*As you are aware, numerous attempts have been made to show that* the use of protective coatings for pipe lines is a waste of money. By various methods of argument, this contention is sometimes made to seem quite valid. However, the facts speak for themselves. Despite all theories and opinions, corrosion continues to destroy buried pipe—unless the pipe is adequately protected. Experience has proved that to ignore protection is to invite trouble and needless expense whenever steel pipe is buried in the ground.

"It is an axiom that any buried pipe will fail eventually from corrosion, and from nothing else. It is assumed, of course, that the pipe line is constructed properly from a mechanical standpoint before it is buried, and that failure from this cause need not be considered in this connection. When buried in severely corrosive soil, the useful life of unprotected pipe will, of course, be relatively short. Under the most favorable sub-soil conditions, this life will be prolonged to some extent. However, if unprotected steel is exposed, it is bound to deteriorate, resulting in a partial loss of investment, and eventually it will be destroyed by corrosion, resulting in a complete loss."

It is apparent that our digester was confused in his writing rather than in thought, as the two final paragraphs of the review correctly quotes the subject matter of the Underground Pipe Protection Institute's report of its activities, and in keeping with THE OIL WEEKLY'S belief that protection of buried pipe is economical practice, as is evidenced by the numerous articles on this subject which we have presented from time to time.—THE EDITOR.

Gentlemen:

On page 39 of the October 31st issue of your publication we find an article with reference to the awarding of a contract for the building of a pipe line from the Furbero field in Vera Cruz to Mexico City. In that article you stated that the contract had been given to the Mexican

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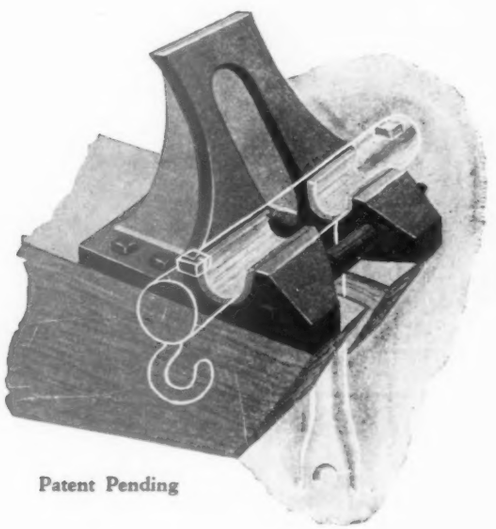

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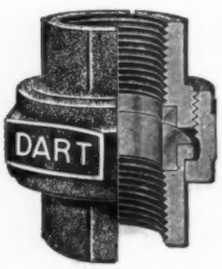

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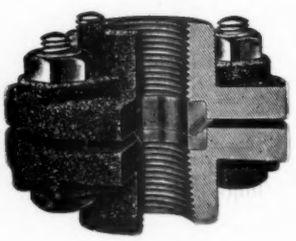

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LETTERS

subsidiary of the Jas. C. White Corporation of New York.

If you will refer to your records you will find that on September 2nd we notified you that this contract had been awarded to Ingenieros y Contratistas "Martin" S. A., which is our subsidiary in Mexico and not a subsidiary of the Jas. C. White Corporation.

We thought to call this matter to your attention as we do not believe the Oil Weekly would wish to have the error go uncorrected.

Yours very truly,
The Jas. F. Martin Corporation,
New York, N. Y. H. E. Kelly,
Vice-Pres & Treas.

To The James F. Martin Corporation apology for quoting an inexact source of information concerning contract on Mexican Eagle Oil Company's (Shell) line to Mexico City. Ingenieros y Contratistas Martin, S. A., has been progressing rapidly on laying the line, averaging over 200 lengths of pipe daily. The line is being welded.—Editor.

Dear Sir:

I wish to call your attention to an error in the September 19th issue of The Oil Weekly, which stated that my recent trip to Jackson, Mississippi, was in connection with the Pure Oil Company. Although I have had in the past pleasant associations with the Pure Oil, my Mississippi sojourn was entirely personal and in the interests of no company.

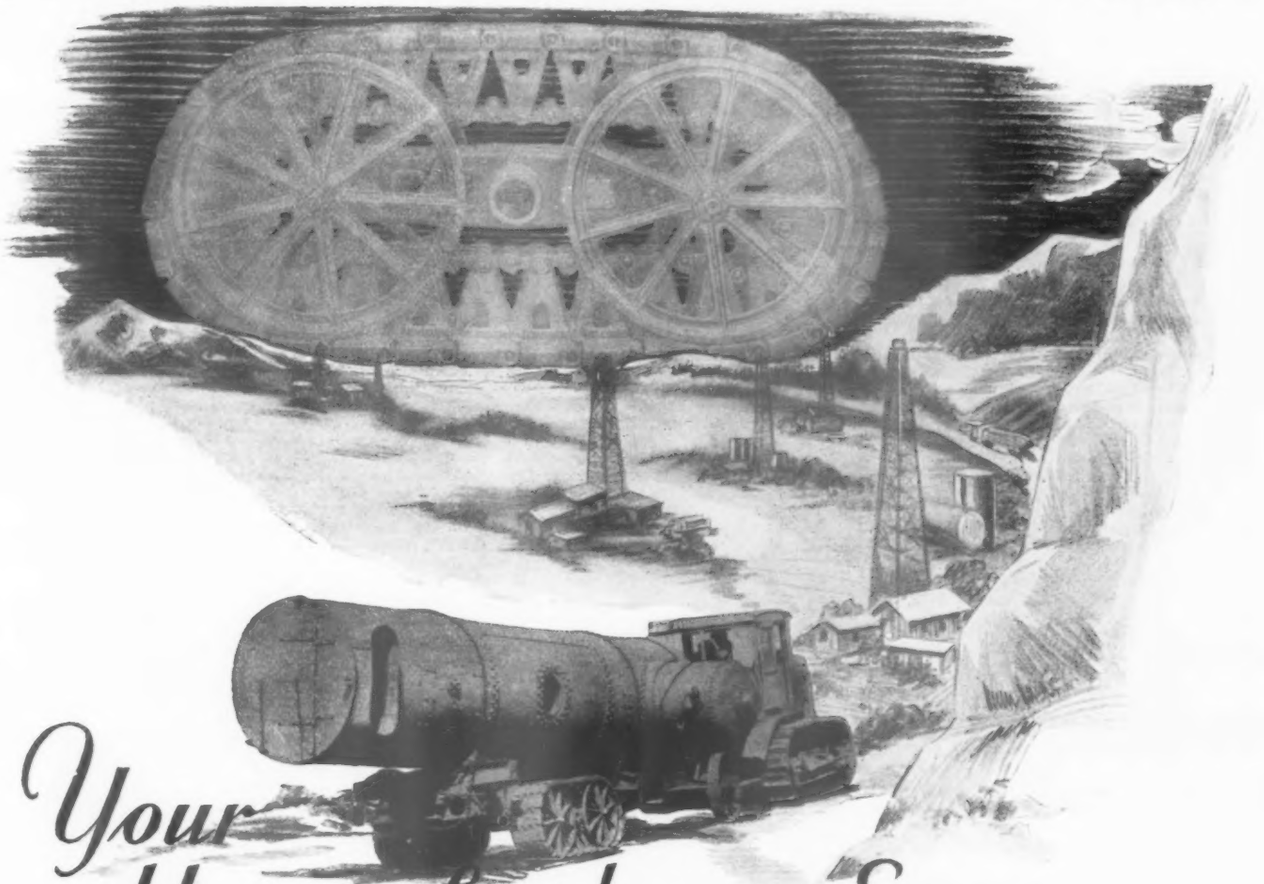
I should appreciate your correction of this misinformation.

S. M. Walley.
Columbus, Ohio.

L. G. Stanley

L. G. Stanley, formerly with Humble Oil & Refining Company in the Gulf Coast fields, is now employed by Mexicana de Petroleo "El Aguila," S. A., in the Puerto, Mexico district, where he is taking care of welding and bit work on wildcat wells.

ATHEYS BRIDGE THE SOFT SPOTS



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OKLAHOMA QUARTERLY PRODUCTION REPORT FOR THIRD QUARTER 1931

Following is a list of companies and individuals reporting to the Oklahoma Corporation Commission on Gross Production. This list gives those companies and individuals which reported production valued at more than $5,000. Royalty returns have purposely been omitted from the list to help avoid confusion. (†) Indicates values shown includes gas value also.

Name and Address—	Barrels	Amount
Amerada Petroleum Corp., Tulsa	763,817	1,066,408
Arkansas Fuel Oil Co., Shreveport, La.	5,792	6,052
Argo Oil Co., Denver, Colo.	29,066	42,860
Argo Oil Co., Denver, Colo.	.....	65
Atlantic Oil Producing Co., Dallas, Texas	188,052	243,919
American Oil & Ref. Co., Okla. City	.....	23,246
American Oil Dev. Co., Pittsburgh, Pa.	4,407	5,491
American-Maracaibo Co., N. Y. City	7,858	13,516
Armor Oil & Gas Co., Duncan	5,536	8,078
N. L. Amster, Ardmore	5,017	5,907
Arthur Oil Co., Sisterville, W. Va.	9,184	†12,783
S. W. Anthony, Mounds	.....	6,327
Chas. Aymer, Nowata	3,953	7,659
Anderson-Prichard Oil Co., Okla. City	78,402	105,163
Anderson Pitchard Oil Co., Okla. City	23,037	30,766
Anderson-Pritchard Oil Co., Okla. City	27,778	37,166
Barnsdall Oil Co., Tulsa	530,249	705,048
Bridwell Oil Co., Wichita Falls, Texas	4,713	5,577
Bi-State Oil & Gas Co., Wichita Falls, Texas	7,817	7,399
Blackwell Oil and Gas Co., Cushing	.....	297,937
Benedum-Trees Oil Co., Pittsburgh, Pa.	95,642	127,220
Babcock Bros., Denison, Texas	8,079	12,005
Barbara Oil Co., Chicago, Ill.	5,478	6,583
Belbo Oil Corp., Madill	24,694	34,761
Britton-Johnson Oil Co., Tulsa	4,736	5,781
British American Oil Producing Co., Tulsa	48,030	63,172
Bay State Oil & Gas, K. C., Mo.	8,756	12,214
Bay State Oil and Gas, K. C., Mo.	1,992	2,687
Bay State Oil and Gas, K. C., Mo.	1,580	2,170
Frank M. Breen, trust estate, Tulsa	4,939	6,145
Mabel Gray Breen, Tulsa	4,093	5,132
Bell Oil and Gas Co., Tulsa	4,805	6,729
Bisett-Lytle and Gray, Tulsa	7,750	9,365
Bisett-Lytle & Gray, Tulsa	6,121	7,097
Black, Sivalls and Bryson, Inc., Bartlesville	.....	6,074
Black, Sivalls and Bryson, Inc., Bartlesville	1,473	1,959
Braden & Moore, Tulsa	5,020	6,477
Brown-Barrett Oil Prod. Trust No. 2, Shawnee Paid by Fed. Natl. Bank, Trustee	24,671	29,495
Brown-Barrett Oil Prod. Trust No. 2, Shawnee Paid by Fed. Natl. Bank, Trustee	.....	22,508
Bullock Oil Co., Okla. City	90,700	141,022
Buell-Herndon & Co., Inc., Tulsa	21,809	33,567
J. G. Beard and S. J. Kolb, Duncan	4,582	6,568
H. A. Born, Seminole	.....	7,378
Baker & Strawn, Tulsa	6,937	†8,884
C. D. Burns, Preston	6,213	8,290
James Braun, Bartlesville	.....	4,950
C. E. Burlingame Corp., Bartlesville	3,585	4,984
Bank of America Natl. Assoc., Trustee, N. Y. City	.....	6,967
Geo. C. Bole, Tulsa	8,530	†12,037
J. G. Brady, Rock Island, Ill.	.....	10,158
H. W. McGill, Admr., Estate of M. Berry, Ardmore	.....	12,319

Name and Address—	Barrels	Amount
Anna M. Bradley, Tulsa	4,535	†5,638
O. V. Beck, Nocona, Texas	73,599	91,573
E. M. Boring, Okla. City	10,430	†13,518
Frank Butram, Okla. City	.....	2,201
Bryan Pet. Co., Tulsa	8,778	12,649
J. R. Bridgeford Synd., A 51, N. Y. City	.....	4,043
W. E. Berry estate, care of Stillwater Natl. Bank	.....	10,117
Berry Pet. Co., Tulsa	7,469	9,547
Frank Buttram, Okla. City	250	322
Burke Greis Oil Co., Tulsa	122,540	161,029
Burke Greis Oil Co., Tulsa	3,953	5,806
W. S. Critchlow, Ardmore	.....	9,728
Continental Oil Co., Ponca City	555,284	766,038
Champlin Ref. Co., Enid	178,940	245,228
Central Valley Oil Co., Cleveland, Ohio	.....	8,204
Conservation Oil Co., Tulsa	6,767	8,573
Carter Oil Co., Tulsa	2,106,297	2,716,306
Carter Oil Co., Tulsa, Suspense	.....	41,982
Coline Oil Co., Okla. City	24,292	19,180
Coline Oil Co., Okla. City	347,636	†489,605
Cromwell-Franklin Oil Co., Okla. City	206,751	279,082
Creo Oil Co., Tulsa	7,982	9,490
Central Pet. Co., Tulsa	6,039	7,586
E. F. Comegys, Sr., Okla. City	.....	11,121
Herman D. Cornell, Trustee, Los Angeles, Cal.	3,564	5,750
Herman D. Cornell, Trustee, Los Angeles, Cal.	.....	3,250
Commonwalth Trust Co., Okmulgee	5,065	5,845
G. W. Connelly, Caney, Kans.	.....	6,587
S. C. Canary, Tulsa	4,897	7,092
Wm. Jones Cook, Trustee, Muskogee	13,111	19,440
Crews Estate Oil and Gas Prod., Enid	6,187	9,714
J. E. Crosbie, Inc., & Robinson, Inc., Tulsa	30,110	39,657
J. E. Crosbie, Inc., Tulsa	15,486	†22,223
J. E. Crosbie, Inc., Tulsa	5,787	6,265
Darby Pet. Corp., Tulsa	300,286	401,182
Darby Lynde Co., Tulsa	59,904	83,274
Dixie Oil Co., Inc., Tulsa	548,547	781,179
Deep Rock Oil Corp., Tulsa	226,591	335,962
Deep Rock Oil Corp., Tulsa	11,608	†16,496
Deep Rock Oil Corp., Tulsa, Suspense	.....	10,598
Delaware Consolidated Oil Co., Tulsa	44,846	50,321
Devonian Oil Co., Tulsa	113,672	161,477
Duncan Wichita Falls Pipe Line Co., Wichita Falls, Texas	12,782	16,909
Denver Prod. & Ref. Co., Okla. City	24,942	32,795
E. D. Davis Oil Co., Okla. City	7,602	7,005
John Droppleman, Wewoka	.....	28,481
J. J. Deaner, Okmulgee	.....	8,911
R. E. Downing, Inc., Tulsa	4,938	6,138
W. Y. Dilley, Trustee, Waurika	3,382	2,885
Delmar Oil Co., Bartlesville	13,407	17,581

PRODUCTION AND VALUATION OF 10 LEADING OKLAHOMA PRODUCING COMPANIES FOR THIRD QUARTER, 1930

Company—	Third Quarter 1930 Barrels	Third Quarter 1930 Value	Second Quarter 1930 Barrels	Second Quarter 1930 Value	First Quarter 1930 Barrels	First Quarter 1930 Value
Sinclair Oil & Gas Company	3,462,849	$4,725,368	3,324,222	$4,513,274	3,329,390	$4,771,612
Indian Territory Illuminating Co.	3,388,611	4,630,546	4,700,165	6,290,945	3,541,918	4,888,495
Magnolia Petroleum Company	2,634,156	3,259,285	3,370,314	6,295,257	3,247,894	4,036,289
Prairie Oil & Gas Company	2,569,573	3,514,131	3,148,779	4,261,242	3,200,865	4,565,492
Carter Oil Company	2,106,297	2,716,306	2,688,807	3,502,497	2,637,173	3,379,830
Gypsy Oil Company	1,927,086	2,614,214	2,571,160	3,478,401	2,796,619	3,994,068
Mid-Continent Pet. Corporation	1,599,992	2,128,996	1,499,895	2,004,678	1,316,871	1,770,153
The Texas Company	983,938	1,285,332	1,124,703	1,478,722	1,090,191	1,508,526
Pure Oil Company	904,615	1,212,117	1,159,742	1,563,014	1,411,737	2,015,687
Wirt Franklin Pet. Corp.	883,280	1,131,746	999,458	1,279,482	.....	.....
Total	20,460,397	$27,218,041	24,730,891	$32,915,963	24,383,561	$33,570,306
*Total All Companies	52,630,200	.....	60,219,300	.....	58,134,350	.....

* A. P. I. Estimates.

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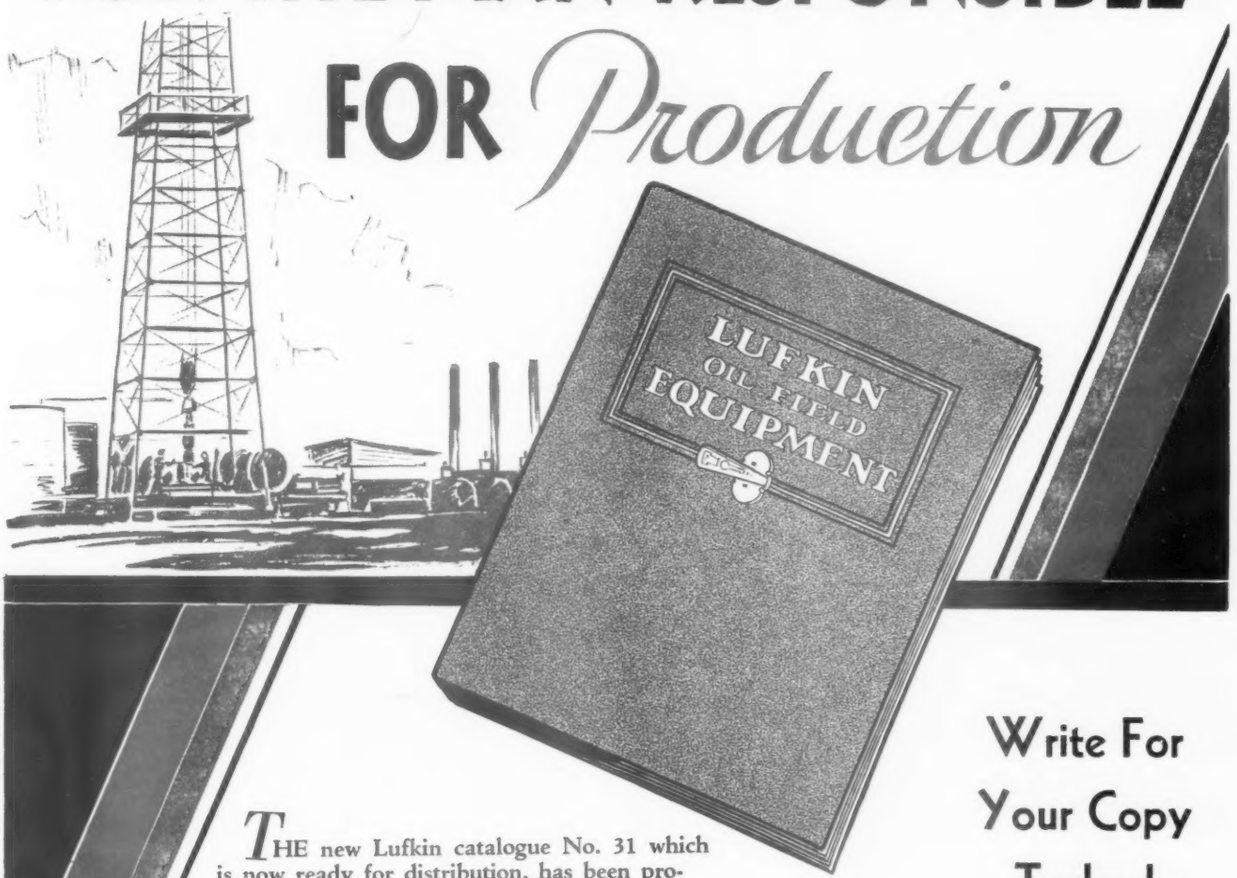

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NAME POSITION

COMPANY

CITY STATE

Name and Address—	Barrels	Amount
Empire Oil & Ref. Co., Bartlesville	332,892	432,857
Empire Oil & Ref. Co., Bartlesville, Suspense	.....	47,197
Empire Oil & Ref. Co., Bartlesville, Suspense	.....	84,217
Eason Oil Co., Enid	161,532	224,902
T. T. Eason, Enid	3,299	4,367
Earlsboro Production Trust No. 2, Tulsa	5,251	7,364
Earlsboro Production Trust No. 1, Tulsa	16,982	21,742
Eagle-Picher Mining and Smelting Co., Henrietta	2,178	2,872
Elm Oil Co., Tulsa	8,640	10,707
Elliott and Smith, Tulsa	.....	4,102
W. C. & F. A. Elliott, Tulsa	.....	578
Exchange Trust Co. (for others), Tulsa	.....	15,530
Alma Miller England, Poca	.....	3,587
Elliott & Vensel, Tulsa	.....	6,363
A. J. Erlewine et al, Wilson	6,286	7,277
Wirt Franklin, Ardmore	209,742	283,152
Wirt Franklin Pet. Corp., Ardmore	883,280	1,131,746
Wirt Franklin Pet. Corp., Ardmore, Suspense	.....	5,538
Fern Oil Co., Yale	5,327	7,147
Liberty Natl. Bank, for Wirt Franklin	3,536	4,236
Liberty Natl. Bank, for Wirt Franklin and Mary Cates	1,727	2,089
Foster Oil Co., Tulsa	5,986	6,581
Finance Oil Co., Gowanda, N. Y.	10,913	13,688
Foster Pet. Co., Bartlesville	22,395	30,183
Foster & Davis, Inc., Bartlesville	7,269	9,007
Farlyn Oil Co., Houston, Texas	5,939	7,272
D. W. Franchit & Co., Tulsa	28,333	36,240
Est. of Jim Fleet et al & W. B. Osborn	.....	1,897
Fleming & Kimbell, Sherman, Texas	5,986	8,580
J. S. Frank, Trustee, Okla. City	.....	5,132
J. S. Frank, Trustee, Okla. City	.....	4,266
J. S. Frank, Trustee, Okla. City	.....	20,459
First Natl. Bank, Trustee, Wichita, Kans.	.....	2,281
Gypsy Oil Co., Tulsa	1,927,086	2,614,214
Gypsy Oil Co., Tulsa	139,130	185,233
Gypsy Oil Co., Tulsa, Suspense	.....	87,261
Gypsy Oil Co., Tulsa, Suspense	.....	73,522
Gypsy Oil Co., Tulsa, Suspense	.....	2,200
Gypsy Oil Co., Tulsa, Suspense	.....	10,805
Graokla Gas Co., Wichita Falls, Texas	46,295	53,670
Gled Oil Co., Tulsa	30,909	40,905
Gilmer Oil Co., Ardmore	32,274	38,560
Gardner Pet. Co., Tulsa	7,022	9,840
Glidden Oil Corp., Tulsa	4,018	5,403
Goddard Co., Ardmore	6,093	7,972
Gates Oil Co., Ardmore	9,188	10,333
Galt-Brown Co., Ardmore	10,041	13,044
Gilcrease Oil Co., Tulsa	23,087	24,340
Grimes and Gillespie, Tulsa	9,813	13,082
F. A. Gillespie & Sons Co., Tulsa	16,531	18,547
Guaranty Trust Co. of N. Y., N. Y. City	.....	10,158
Glass & Harmon, Nowata	9,605	12,159
Harmon & Reed, Nowata	5,829	7,303
John B. Grieves, Terlton	7,046	9,226
Walter H. Gant and Knox L. Garvin, Ardmore	11,123	12,231
R. F. Garland & Co., Tulsa	.....	23,802
R. W. Getzendaner, Waxahachie, Texas	4,348	5,145
Alice B. Graham, Okmulgee	.....	6,196
James H. Graham, Tulsa	4,817	6,551
H. B. Gentner, Tulsa	.....	20,160
W. C. Goffott, Trustee, Toronto, Canada	.....	7,311
Gled Oil Co., Bartlesville Paid by Phillips Pet. Corp.	11,307	14,707
Heenan-Coe-Cook-Cunningham, Royalty Owners, Okla. City, paid by First Nat. Bnk. & Trust Co.	17,059	23,056
Highway Oil Ref. Corp., Tulsa	24,193	32,608
Harland Oil Co., Walco	14,851	16,547
E. L. Harris, Tulsa	.....	35,599
Harris & Haun, Inc., Blackwell	.....	15,083
Houston Oil Co. of Texas, Houston, Texas	32,109	43,374
S. W. Hayes, Okla. City	33,224	45,248
Mrs. Elizabeth R. Crockett Hayes, Okla. City	.....	27,413
Hay & McClure, Inc., Peoria, Ill.	11,165	15,250
Henderson Oil Co., Marietta, Ohio	7,406	8,830
W. E. Harber, Seminole	.....	14,757
Hall & Briscoe, Inc., Okla. City	67,243	68,851
Home Gas Co. of Cushing, Cushing	11,197	†22,152
J. A. Hull Co., Tulsa	33,303	47,959
J. Hughes, Cushing	.....	5,337
J. H. Hudson, Ardmore	.....	22,458
Hilton Phillips, Inc., Shawnee	.....	9,744
Frank Haskell, Agt., Tulsa	9,988	12,039
W. T. Hales, Okla. City	39,678	47,527
Ed S. Holman, Inc., Okla. City	22,193	33,413
Hilton Phillips et al, Shawnee	.....	36,966
W. J. Harrington, Coffeyville, Kansas	4,129	5,113
Mace Herndon, Sulphur	.....	12,198
Indian Terr. Illum. Co., Bartlesville	3,388,611	4,630,546
Indian Terr. Illum. Co., Bartlesville, Suspense	.....	35,422
Independent Oil and Gas, Tulsa	461,276	621,161
Independent Oil and Gas, (suspense) Tulsa	.....	3,367
Iron Mountain Oil Co., Tulsa	9,724	13,352
Indian Royalty Co., Okla. City	15,356	20,697
Indiana Oil and Gas, Tulsa	23,657	30,067
Imo Oil and Gas Co., Covington	.....	8,677
Illinois Ref. Co., Tulsa	.....	4,864

Name and Address—	Barrels	Amount
C. C. Julian Oil & Ref. Co., Okla. City	20,976	21,340
R. G. Jennings, Pittsburgh, Pa.	4,064	5,815
Johnson Oil Ref. Co., Chicago, Ill.	31,220	41,564
C. O. Johnson & Geo. C. Pendleton, Receivers, Durant	.....	3,623
Jackson & Wise, Sapulpa	5,450	7,782
Jackson & Wise, Sapulpa	1,804	2,066
Jackson, Wise & Bovaird, Sapulpa	2,696	2,741
L. B. Jackson, Sapulpa	.....	3,079
Jackson, Wise and Markham, Sapulpa	.....	1,975
Jackson, Wise and Snedden, Sapulpa	.....	931
L. B. Jackson, Sapulpa	4,891	5,871
L. B. Jackson, Sapulpa	.....	6,617
Leo Jacobs, St. Louis, Mo.	6,720	7,924
Robt. L. Jones, Bristow	5,689	8,092
R. C. Jones & Co., Inc., Cushing	.....	11,457
Kay and Kiowa Oil Co., Tulsa	4,520	6,014
Kay Oil Co., Blackwell	12,635	18,490
Kewanee Oil and Gas Co., Titusville, Pa.	171,506	261,002
Keener Oil and Gas Co., Tulsa	36,880	43,901
Frank Knappenberger, Phoenix, Ariz.	.....	3,012
Kreola Oil Co., Ardmore	9,019	5,973
Keystone Production Co., Fort Worth, Texas	3,954	6,003
Kanaco Oil Co., Ardmore	4,008	4,983
Kingwood Oil Co., Okmulgee	27,147	37,832
Chas. E. Knox, Enid	15,787	†21,595
Emma B. Kennedy & Trustee, Okemah	.....	3,266
K. D. & H. Oil Co., Ada	2,354	2,472
Laurel Oil and Gas, Philadelphia, Pa.	31,010	39,987
B. A. & T. E. Laselle, Ada	.....	48,198
Link Oil Co., Tulsa	17,963	23,283
Lima Oil and Gas, Bartlesville	2,051	2,350
Lasoya Oil Co., Altoona, Pa.	4,319	5,330
The Lippa Co., Tulsa	13,592	7,019
Lone Star Gas Co., Dallas, Texas	.....	4,810
Lesh & McCall et al, Nocona, Texas	7,871	6,297
A. M. Landen, Indep. Kan.	5,253	7,433
Patty Spence Ludey, Marietta, Ohio	3,496	4,295
Louisiana Oil & Refg. Corp., Shreveport, La.	60,004	64,857
McGraw Oil Co., Tulsa	16,058	†20,434
C. L. McMahan, Inc. & C. L. McMahan, Tulsa	53,021	70,677
C. L. McMahan, Inc. & C. L. McMahan, Tulsa	6,596	9,312
McMan Oil and Gas, Tulsa	79,614	107,481
I. R. McQueen, Oklahoma City	5,628	7,911
Magnolia Petr. Corp., Dallas, Texas	2,634,156	3,259,285
Magnolia Petr. paid for others, Dallas, Texas	41,297	59,634
Magnolia, paid for others (suspense)	.....	19,813
Magnolia, paid for others (suspense)	.....	8,719
Magnolia, paid for others (suspense) for others	.....	4,788
Mid Continent Petr. Corp., Tulsa	1,599,992	2,128,996
Mul-Berry Oil Co., Cushing	.....	173,585
Maud Oil and Gas, Oklahoma City	5,596	7,846
Marileen Oil and Gas, Blackwell	5,248	7,508
Malernee Oil Co., Oklahoma City	5,372	7,310
Minnehoma Oil & Gas Co., Tulsa	104,493	142,977
J. H. Markham, Jr., Tulsa	17,206	22,422
Margay Oil Corp., Tulsa	48,354	64,454
Mudge Oil Co., Pittsburgh, Pa.	19,288	14,645
Murphy Oil Co. of Penn, Philadelphia, Pa.	7,666	8,628
Clint Moore estate, Tulsa	11,550	15,627
Madden & Madden, Lexington, Ky.	7,157	9,605
F. D. Misener, Tulsa	6,574	7,520
D. B. Mason, Tulsa	11,365	13,692
W. G. Mason, Chelsa	2,491	3,449
Ward S. Merrick, Ardmore	.....	7,721
F. W. Merrick, Inc., Ardmore	.....	56,988
Midco Oil Corp., Tulsa	18,053	24,420
Mid-Kansas Oil & Gas Co., Findlay, Ohio	398,975	522,460
Dudley D. Morgan, Tulsa	.....	5,425
Norwood Oil Co., Tulsa	6,949	8,342
Nowata Oil & Refg. Co., Tulsa	.....	6,048
Noble-Olson Drilling Co., Tulsa	23,816	26,565
National Union Oil & Gas Co., Blackwell	4,635	6,861
National Oil & Dev. Co., Tulsa	8,613	10,091
National Refg. Co., Cleveland, Ohio	16,772	†23,268
Number Oil Co., Tulsa	4,733	6,496
I. Nadel, Tulsa	.....	5,594
W. C. Norris, Tulsa	.....	8,976
Walter Neustadt, Ardmore	.....	5,446
"Nitchey" Lease paid by Supt of Five Civilized Tribes	.....	4,104
Osage Gas Producing Co., Indep. Kansas	.....	7,279
Olean Petr. Co., Bristow	6,991	12,154
Ohio-Osage Oil Co., Tulsa	3,894	5,682
Ona Oil Co., Blackwell	.....	22,613
Okla. Public Service Co., Cedar Rapids, Iowa	5,754	6,933
Oklahoma Company, Tulsa	65,612	90,600
O'Rourke Oil Co., Bristow	.....	6,182
A. G. Oliphant, Tulsa	7,140	6,245
O. O. Owens, Tulsa	8,851	12,310
Helen B; Russell B; Horace B Olds, Charles City, Iowa	.....	16,269
Geo. O'Dell (Ray) Shawnee	.....	2,041
Geo. L. Pace, Wichita Falls, Texas	70,038	76,160
Pyramid Oil Co., Winchester, Ky.	.....	6,039
Prairie Oil & Gas Co., Indep., Kansas	2,569,573	3,514,131
Prairie Oil & Gas Co., Trustee, Indp., Kansas	2,743	3,348
The Petroleum Co., Tulsa	4,757	6,045

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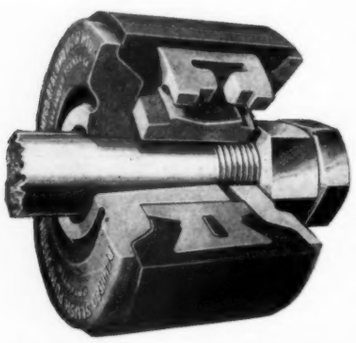
Jacksonville, Fla.
Port Tampa, Fla.
Mobile (Magazine Point, Ala.)
Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas

Name and Address—	Barrels	Amount
The Petroleum Co., & M. H. Mosier, Tulsa	11,050	14,082
Petroleum Royalty Corp., Tulsa	13,039	17,240
Producers & Ref. Corp., Indep., Kansas	187,451	198,790
Producers Oil Co., Tulsa	34,152	46,927
Pure Oil Co., Chicago, Ill.	197,590	18,923
Pure Oil Co., Chicago, Ill.	904,615	1,212,117
W. B. Pine, Okmulgee	39,987	2,479
W. B. Pine, Okmulgee	16,048	20,715
W. B. Pine, Okmulgee	62,655	79,332
W. B. Pine, Okmulgee	4,814	6,415
W. B. Pine, Okmulgee	730	915
W. B. Pine, Okmulgee	620	843
W. B. Pine, Okmulgee	64,005	81,091
W. B. Pine & Phillips Petr., Okmulgee	1,196	1,690
Pioneer Petr. Co., Okmulgee	9,562	11,274
Paragon Oil Co., Tulsa	4,624	5,795
Phoenix Oil Co., Pittsburgh, Pa.	.....	19,905
Pandem Oil Corp., Wichita Falls	3,972	5,808
Phillips & J. B. Milam, Tulsa	27,703	34,053
Phillips & J. B. Milam, Tulsa	14,988	19,711
Phillips Petr. Co., Bartlesville	490,331	646,500
Phillips Petr. Co., for Gled Oil Co., Bartlesville	11,307	14,707
Phillips Petr. Co., for others	.....	21,032
Hilton A. Phillips, Shawnee	.....	30,144
Hilton A. Phillips, et al, Shawnee	.....	36,966
Plains Petr. Co., Inc., Tulsa	6,233	8,334
Paraffine Oil Co., Houston, Texas	6,921	8,051
Pouder Pomeroy Co., Tulsa	19,999	31,778
Perkins & Cullum, Wichita Falls, Texas	12,813	14,564
Papoose Oil Co., Tulsa	69,064	96,530
Panther Oil & Gas, Oklahoma City	7,055	9,623
Plymouth Petr. Co., et al, Tulsa	7,790	9,787
W. M. Pugh, Marlow	.....	5,635
Reliance Oil Co., Houston, Texas	3,994	4,586
Reliance Oil Co. of Oklahoma, Houston, Texas	4,100	4,950
Reserve Petr. Co., Tulsa	17,311	22,411
Rockland Oil Co., Ardmore	22,517	24,498
Riverland Co., Tulsa	7,745	11,219
Ramsey Petr. Corp., Oklahoma City	80,457	†89,260
Ryan Consolidated Petr. Corp., Tulsa	4,345	5,894
Reed & Harmon, Nowata	5,829	7,303
Reynolds Oil & Refg. Co., Oklahoma City	7,736	10,664
Regal Oil & Gas Co., Tulsa	16,868	22,578
Red Bank Oil Co., Tulsa	43,997	55,806
Reynolds & Unruh, Wichita, Kansas	20,274	28,051
D. A. Richardson, Oklahoma City	25,956	35,064

Ramhead
SLUSH PUMP PISTONS



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Alamo Iron Works
SAN ANTONIO, TEXAS

Name and Address—	Barrels	Amount
W. S. Randall, Oklahoma City	6,325	5,361
Jake Rutz Oil Co., Morris	7,881	9,222
J. W. Robins, Ft. Worth, Texas	6,657	6,604
C. E. Roth, Indep. Kansas	4,002	5,229
E. L. Robinson & Gibson-Zahniser Co., Tulsa	4,069	†5,855
E. L. Robinson, Tulsa	10,418	12,878
Superior Oil Corp. by John Rogers, Receiver Tulsa	135,103	178,330
Shell Petr. Corp., St. Louis, Mo.	799,413	1,067,715
Skelly Oil Co., Tulsa	766,207	1,000,235
Sure Oil Corp., Tulsa	4,020	5,118
Sands Petr. Corp., Tulsa	11,182	15,325
Standard Royalties of Canada, Inc, Toronto, Can.	.....	78,868
Savoy Oil Co., Tulsa	6,763	†7,644
Shasta Oil Co., Wichita Falls, Texas	143,679	137,773
Shasta Oil Co., Wichita Falls, Texas	3,688	3,645
T. B. Slick, Clarion, Pa.	184,829	250,497
T. B. Slick for Wm. H. Atkinson	37,400	52,590
T. B. Slick for Wm. H. Atkinson	42,298	59,734
Est. T. B. Slick, Dec. Atkinson	183,427	252,144
T. B. Slick for Anderson-Pritchard Co., Oklahoma City	23,037	30,766
T. B. Slick Estate, for Anderson-Pritchard	27,778	37,166
Sinclair Oil & Gas Co., Tulsa	3,462,849	4,725,368
Sinclair Oil & Gas Co., (suspense), Tulsa	.....	4,443
C. B. Shaffer, Chicago, Ill.	14,254	16,453
J. C. Shaffer, Inc., Oklahoma City	.....	45,320
J. B. Schermerhorn, Inc., Minneapolis, Minn.	59,768	72,179
J. B. Schermerhorn, Inc., Minneapolis, Minn.	2,687	6,618
Schermerhorn-Ardmore Co., Minneapolis, Minn.	82,051	91,612
Southern Oil Corp. of America, Winfield, Kans.	5,159	6,292
Slab Oil Co., Ardmore	8,488	12,709
Sarasota Oil Co., Ardmore	2,891	3,143
Sterling Oil & Gas, Tulsa	4,248	5,132
Skelton-Moore Oil Co., Bartlesville	5,308	6,656
Simms Oil Co., Dallas, Texas	57,296	80,742
Sturm Drilling Co., Ardmore	11,678	14,943
Sampson Oil Co., Tulsa	4,023	5,042
J. L. Selby, Muskogee	6,326	7,938
Selby Oil & Gas Co., Tulsa	24,404	†29,431
Snowden & McSweeney Co., N. Y. City	37,826	†45,939
Shoreline Oil & Gas Co., Tulsa	17,389	23,742
Sheridan Oil Co., Tulsa	12,051	14,566
Silurian Oil Co., St. Louis, Mo.	115,549	142,529
Geo. W. Snedden, Tulsa	29,611	43,886
Chas. R. Smith, Jr., Ardmore	4,752	6,274
Marie S. Smith, Ardmore	5,893	7,843
C. P. Shertzer, Dewey	5,458	6,163
R. H. Sultan, Walters	.....	45,320
Harry Stekoll, Tulsa	11,881	16,300
Stanolind Crude Purchasing Co., formerly the Sinclair Crude Co., (suspense)	.....	261,474
Simpson-Fell Oil Co., Ardmore	18,587	21,299
N. Bert Smith Royalty Trust, Oklahoma City	.....	52,464
Signal Oil Co., Tulsa	30,335	41,659
Sunray Oil Co., Tulsa	181,229	209,544
Sunray Oil Co., Tulsa	525	638
Tidal Oil Co., Tulsa	405,737	510,989
Texas Pacific Coal & Oil Co., Thurber, Texas	46,102	39,784
Thlocco Oil Co., Tulsa	8,756	12,214
Tiger Mountain Oil Co., Tulsa	2,864	3,620
Turman Oil Co., Tulsa	126,178	169,053
Tulsa Oil Co., Tulsa	.....	12,844
Twin State Oil Co., Tulsa	559,798	471,251
Twin State Oil Co., Tulsa	2,945	4,674
Treveyn Oil Co., Duncan	.....	59,878
C. R. Trail, Sapulpa	.....	6,350
Transcontinental Oil Co., Tulsa	60,925	78,786
Texas Co., Prod. Dept., Tulsa	983,938	1,285,332
United Eight Oil Trust, by H. B. Fell Receiver, Ardmore	4,211	5,714
Union Oil & Mining Co., Tulsa	5,058	6,796
Valley Osage Oil Co., Tulsa	17,166	21,029
Vacuum Oil Co., Houston, Texas	104,818	154,085
Venmex Oil Co., Wichita Falls, Texas	32,955	37,035
L. H. Wentz, Ponca	139,560	211,706
Wentz Oil Corp., Ponca	645	943
Westland Oil Corp., Tulsa	16,762	22,331
Wellsville Oil Co., Wellsville, N. Y.	10,084	12,271
Watchorn Oil & Gas, Oklahoma City	7,339	10,506
Wolverine Petr. Corp., St. Louis, Mo.	160,317	195,323
H. F. Wilcox Oil & Gas, Tulsa	210,824	284,141
Warner-Caldwell Oil Co., Titusville, Pa.	30,507	37,108
Wright-Smith Oil Co., Oklahoma City	18,596	25,257
J. H. Wright, estate, Sapulpa	17,280	22,807
Winkler & McQueen, Duncan	7,839	9,918
Westheimer & Daube, Ardmore	106,276	128,390
Wiser Oil Co., Sisterville, W. Va.	94,313	112,984
Winona Oil Co. of Delaware, Tulsa	38,500	51,898
Howard J. Whitehill, Tulsa	3,957	4,800
H. J. Whitehill & H. C. Weible, Tulsa	11,253	13,778
Whitehill Oil Corp., Tulsa	17,790	21,879
Wittmer Oil & Gas Prop., Pittsburgh, Pa.	3,995	5,369
Margaret S. Weeks, Ardmore	4,752	6,274
Walsh Oil Co., Tulsa	5,581	6,772
Wood Oil Co., Tulsa	9,776	13,832
L. W. Zimmerman, Chicago, Ill.	20,444	†21,380

ALL *the way* DOWN *— with* SPENGLER TOOLS!

Ross No. 1, Oklahoma City Field
Drilled and Owned by Oils Incorporated

Oils Incorporated famous Ross No. 1 —the world's largest high gravity oil well—was drilled "all the way" ..."at a substantial saving in material costs due to the perfect performance of SPENGLER TOOLS!"

OILS INCORPORATED
821 Transportation Natl. Bank Bldg.
OKLAHOMA CITY, OKLAHOMA

October 28, 1930

Spengler Tool Company,
Oklahoma City, Oklahoma.

Gentlemen:

In reply to your inquiry as to equipment used on our Ross No.1, which made at an estimated rate of 140,000 barrels per day, we used Spengler Tool Joints, Sprocket Chain, Pump Liners, as well as Spengler Rock Bits, Rock Bit Cones and Side Reamers.

In using your product, we were able to make a substantial saving in material costs in drilling this well, due to perfect performance of your equipment which we recommend to anyone using Rotary Tools.

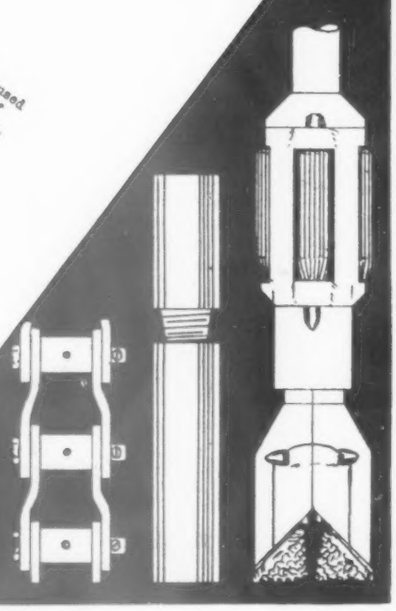
Very truly yours,
OILS INCORPORATED
By G. S. Smith
G. S. Smith

OSS:VH

There's a Reason — the Right Steel in the Right Place!

SPENGLER TOOL CO.
ROTARY DRILLING TOOLS

MAIN OFFICE AND PLANT
OKLAHOMA CITY



TRADITION

"I'M finally convinced, Lad, that now is the time for us to start using arc welding.

I understand that welds produced by a shielded arc are welds that we can stand behind."

PROGRESS

"Right you are, Pop, if we use the Lincoln 'Fleetweld' process. It is the only manual process with a completely shielded arc that produces welds economically.

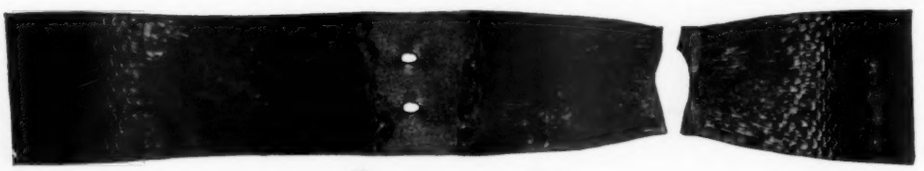
In this process the shielded arc precludes practically all possibility of oxides and nitrides forming in the weld metal. Consequently welds produced by the Lincoln 'Fleetweld' process have a tensile strength of 60,000 to 75,000 lbs. per square inch—10,000 to 20,000 lbs. stronger than mild rolled steel.

And these welds are ductile. When pulled they will show a 20% to 30% elongation in 2 inches.

Welding with the Lincoln 'Fleetweld' process costs less because you can weld two or three times faster with it than with any other manual welding method.

Of course in many cases where production warrants automatic welding, the Lincoln 'Electronic Tornado' process will produce the same quality welds with a shielded arc but more economically."

THE LINCOLN ELECTRIC COMPANY
Department No. 33-11 Cleveland, Ohio
World's Largest Manufacturers of Arc Welding Equipment



This test bar of steel plate welded by the Lincoln "Fleetweld" process broke when subjected to pull of 54,000 lbs. per square inch. The weld was machined flush with plate and two .182 in. diameter holes drilled through weld before testing. The stress imposed on the weld was 60,900 lbs. per square inch which stretched the holes to 17/64 in. diameter, an elongation of more than 40%.

Weld made by Lincoln "Fleetweld" process (shielded arc).

Weld made by ordinary arc welding method.

A simple test of the greater ductility of welds made by the Lincoln "Fleetweld" process. Both welds were made on a straight piece of steel plate which was then bent as shown.

W-159

LINCOLN "Stable-Arc" WELDER

Lincoln "Stable-Arc" welder, motor-driven portable truck type, for use where electric power is available.

New Equipment for the Field

Machinery - Tools - Catalogs - Books

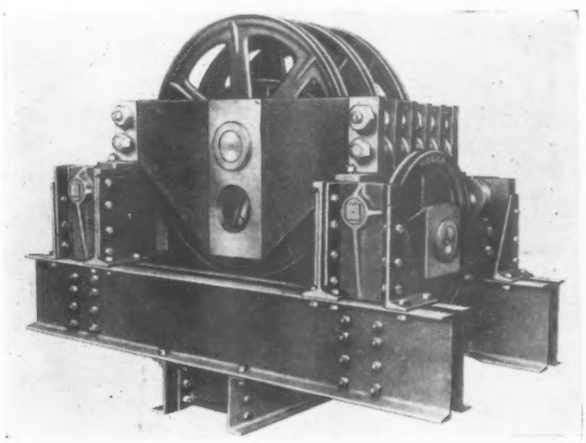
Type C Crown Blocks

REGAN FORGE & ENGINEERING COMPANY

Regan Forge & Engineering Company, San Pedro, California, is introducing the Regan Type C, a nine-sheave crown block, which is a companion to the Regan extra heavy traveling block. The manufacturers announce the new Type C crown block as having a capacity of 650,000 pounds, based on a factor of two on the yield stress. The block has a low center of gravity and the height of the block is decreased to permit its installation with shorter gin poles.

With the exception of the sheave wheels the entire block is constructed from fabricated welded steel blades. An outstanding feature is the adjustability of the sand sheave. It can be positioned for use with the draw-warks, sand reel, or a special hoist, and will allow the line to be centered from the hole, which is especially convenient for swabbing operations.

The cat-line sheave is adjustable and can be set in position above the driller's head, or it can be positioned at a medial point or at other locations as desired.



Regan Crown Block—Type C

The block retains all of the features of the Regan Types A and B crown blocks. The bearing construction is the same, embodying dual bearings for each sheave and an individual rotating pin integral with its sheave. The bearing capacity has been increased in proportion to the capacity of the frame work of the block.

Mud Pump Valve

GARDNER-DENVER COMPANY

Gardner-Denver Company, Quincy, Illinois, is now marketing a new mud pump valve, lighter in weight but quicker in action, and which is particularly designed to minimize pounding.

Four distinct features are offered by the manufacturers in this new valve. It is a special alloy forged valve and valve seat; hardened and heat treated. The valve assembly is self-contained with a center pin guide bolted in the seat to do away with extra upper and lower guides or bushings. The guide pin is of nickel steel, hardened and ground. It has a material decrease in weight and is built for increased strength.

Gardner-Denver Mud Pump Valve

The valve stem is hollow to allow a by-pass for the mud, and construction is such that the stem is easily removed.

The valve retainer acts as a seat for the valve spring and as a retainer, holding the valve insert in position. A square-section spring-ring lock fits in a groove in the valve holding the retainer in position and locking the entire assembly of the valve, valve retainer and valve insert.

Liberal valve area offers a large volume of mud unrestricted by guide fins or numerous valve stem supporters. The company also furnishes valve seat pullers constructed of chrome nickel steel, hardened and treated. They are made in two sizes: pulling valve seat with inside diameter up to four inches and seats with inside diameters of five inches and up.

Gardner -Denver Company is distributing a new four-page two-color folder containing illustrations and all information about the new Mud Pump Valve.

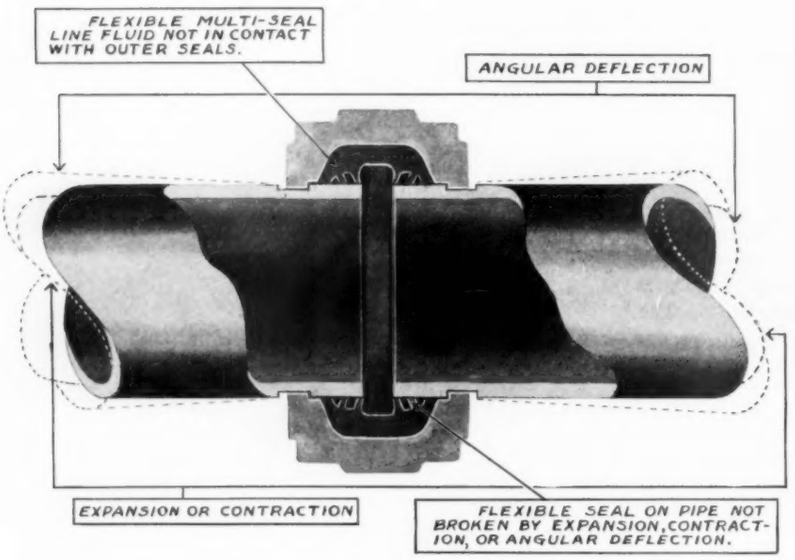
Multi-Seal Coupling

THE DILLON COMPANY

The Dillon Company, Tulsa, announces that Smith Separator Company, Tulsa, is now Mid-Continent distributor for the Dillon "Multi-Seal" coupling which is described in a folder recently published and available by writing either the manufacturer or the new distributor.

This coupling was designed to meet the demand for a coupling of maximum flexibility, and one that was leak-proof under varying conditions. The multi-seal principle is to provide, at each end of the pipe, extra seals which are not in contact with the fluid end of the pipe. The suction produced by the additional seals is designed to maintain the seal

NEW EQUIPMENT FOR THE FIELD


FLEXIBLE MULTI-SEAL LINE FLUID NOT IN CONTACT WITH OUTER SEALS.
ANGULAR DEFLECTION
EXPANSION OR CONTRACTION
FLEXIBLE SEAL ON PIPE NOT BROKEN BY EXPANSION, CONTRACTION, OR ANGULAR DEFLECTION.

in such circumstances as expansion, contraction, deflection of the pipe, and pitting of the pipe. If one seal is scored, provision is made by the other seals to maintain the seal.

A tapered bolt hole in the lug makes the Dillon housing self-aligning and supports the bolt in the center as well at each end.

A test made at the Oklahoma Iron Works shops in Tulsa for the benefit of pipe line men and engineers, using a short line of six-inch standard grooved pipe with two certified malleable and two steel drop forged coupling housings resulted in failure coming at 2750 pounds hydraulic pressure on the test line by breaking out the end of the pipe that had been made by welding a plate to the pipe. This plate was reinforced by a clamp made out of five-eighths-inch rods and several steel straps. While this pipe failed to hold against the pressure exerted, the couplings did not show leak at any joint.

Quick Releasing Sucker Rod Socket

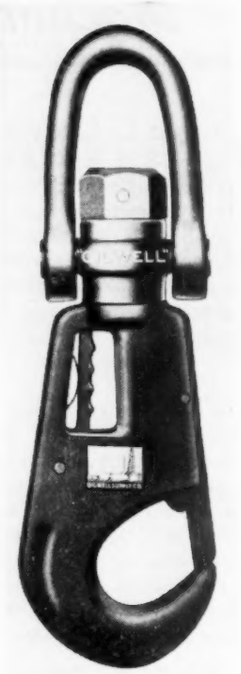
OIL WELL SUPPLY COMPANY

Oil Well Supply Company's new "Oilwell" quick releasing sucker rod socket is designed and built to eliminate stripping of the tubing, backing off or unscrewing, or breaking the hold when a hold is taken on a string of sanded or corkscrewed rods which cannot be pulled. The fact that many sucker rod bowls are ruined when released from an engaged rod, because it was necessary to drive the bowl back on the rod in order to free the slips, has resulted in the design of this new releasing socket.

With this new product is is only necessary to place a wrench on the rods and turn to the right five or six times when a hold is taken and the rods cannot be pulled. This operation tightens the rod joints, but releases the hold of the socket.

When the broken rods have been pulled it is not necessary to take the "Oilwell" socket apart in order to release the hold. The releasing top is simply turned to the right as explained above, and the socket is released.

Oilwell Rod Socket



Oilwell Safety Hook

Safety Rod and Tubing Hook

OIL WELL SUPPLY COMPANY

Oil Well Supply Company's "Oilwell" safety sucker rod and tubing hooks are built with a patented automatic locking device, and can be opened only by hand pressure on the latch operating lever. When pressure is applied on this lever the latch is raised up into the body, clear of the loop. This feature provides maximum clearance for easy "stabbing" and eleminates the possibility of the latch catching on the elevator bail.

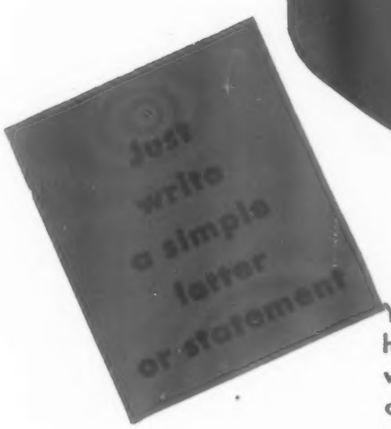
The grip, or D-handle, located on the back of the hook, is designed to afford ease of operation and to protect the operator's hand from injury. There are no projections of any kind to catch on the derrick girts or braces.

"Oilwell" safety hooks are made from Corbo-Manganese steel and are scientifically heat-treated. They are light, but rugged and well balanced. These hooks are equipped with Timken tapered roller bearings to permit them to swivel perfectly under heavy loads. "Oilwell" safety hooks are made in two sizes for sucker rods and two sizes for tubing.

American Meter Company, Albany, New York, has made additions to the floor space, equipment and personnel of the Albany laboratory. The laboratory now occupies an area of 950 square feet. It specializes in experimental and testing work relative to low pressure measurement. Activities are coordinated with the Company's research laboratory at Metric Metal Works, Erie, Pennsylvania.

To facilitate proving tests with both large and small meters, the laboratory is equipped with a five cubic foot, a 10 cubic foot and a 100 cubic foot prover. The size of the laboratory is such as to permit the installation of additional equipment and apparatus as needed.

20 CASH PRIZES for letters about Bettis Protectors



Write about your experience or someone else's experience.

You've seen Bettis Protectors at the well — or you have used them if you are a progressive driller. We want your ideas and experience or your observations of their use. As an incentive we offer $400.00 in 20 cash prizes for the best letters or statements. Just jot down your opinion or ask some of your driller friends what they think of Bettis Protectors. You have a good chance to win a prize — a mighty good chance. We will pay $5.00 for every acceptable photograph showing Bettis Protectors regardless of whether or not you win a prize.

Incidentally, if you want full information write for our catalog.

Prizes

1st	$200.00
2nd	75.00
3rd	25.00
4th	15.00
5th	10.00
Next 15	5.00
Total	$400.00

EVERY contestant not receiving a cash award will be sent a memorandum book.

RULES OF CONTEST

No letter or statement must exceed 300 words.

You may enter one or more letters

Write on one side of paper only.

All statements must be truthful.

Photograph may accompany letter if desired.

Anyone except our employees are eligible to enter.

Contestants must mail letters not later than December 31, 1930.

In event of a tie for any of the prizes, same award will be paid to each of the tied contestants.

Patterson-Ballagh Corporation

Insurance Exchange Building
Los Angeles

Texas and Gulf Coast Distributors:
Bettis Sales Co., 917 Merchants & Mfrs. Bldg., Houston

Oklahoma Distributors:
Bailey & Becker Company, 410 Thompson Bldg., Tulsa

New York Office: 39 Cortlandt St.

Manufacturers and Supply Dealers Notes

Lufkin Foundry & Machine Company Plant

Lufkin Foundry & Machine Company, Lufkin, Texas, announces the completion of one of the largest expansion programs in the history of the company. The accompanying illustration shows the enlarged plant. The recent building program included a two-story office building, steel and brick fire-proof pattern shop and storage building, new wash and locker room for employes and the fencing of the plant in its entirety.

In addition to the building program a number of modern production machines were installed in the machine shop and foundry departments. Several tools, especially designed for the manufacture of Lufkin units, were added to its equipment.

This company, of which W. C. Trout is vice president and general manager, was organized in 1900, originally to specialize on saw mill work, and some of the largest saw mills in the South and West were produced in the Lufkin plant. With the diminishing forests, the facilities of the plant was directed to the refinery end of the oil industry and for the first time in the Southwest refinery fittings of a special nature were manufactured there.

The company entered the producing branch equipment with the manufacture of the Lufkin worm gear pumping unit, a new method of pumping wells. A short time ago the company introduced a new type of gearing to oil well pumping and drilling applications known as the Sykes-Herringbone gear. Other production equipment introduced include the Trout Oil-Bath Pitman, Trout Counter-Balanced Crank, and Lufkin Center-Line Beam.

The plant is now one of the largest of its kind in the Southwest.

Mission Sales Company, 2416 Railroad Street, Houston, has published an eight-page descriptive catalog, including prices, on the Mission slips for rotary drilling.

Publication of this catalog follows a period of several months of work spent in making improvements on the original Mission slips. Tests made by the engineering department of Rice Institute on the tension-compression testing machine resulted in showing record performance for these slips. The set was tested in a standard bowl, taper four inches per foot. Pipe used was 4.5 O.D., weight 15 pounds per foot, and the load applied by the Tinius Olsen, tension-compression testing machine was 200,000 pounds. The slippage was reported by Rice Institute as being none with no apparent damage to the pipe. The pipe was removed from the slips after release of the load by hand. The 200,000-pound test is the limit of the testing machine. This set of slips, now in use throughout domestic and in foreign countries, is pictured on the test and also in detail in this catalog. A copy of the catalog will be forwarded upon request to the above address.

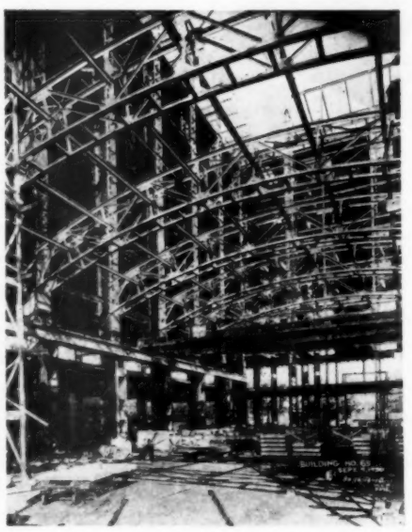
Mission Sales Company has also published a descriptive catalog on the Mission valve for slush pumps, an improved valve with all seat parts replaceable without pulling the seat. This catalog is four pages and has a price list inserted for the convenience of slush pump valve users. An illustration shows the valve parts dismantled, and prices on individual parts are listed. This catalog also is available by writing the company's Houston office.

The accompanying illustration shows the new research and engineering building now being erected by A. O. Smith Corporation in Milwaukee.

The building was planned as a laboratory in which A. O. Smith Corporation's engineering force is to carry on its industrial development work. Much of the company's work is done with steel in large masses, so a crane had to be provided in connection with the laboratory, to lift these heavy weights.

The Battle deck floors, developed by the A. O. Smith Corporation, are unique insofar that they consist of plates slotted for spot welding onto the floor beams and girders. Another new feature is the steel grid recently developed and now produced by A. O. Smith Corporation. The grid is tack-welded to the Battle deck for reinforcement of the concrete floors. The huge craneway occupies the court of the structure, which is U-shaped in plan. Eight consecutive 80-foot arched spans, each three feet square and with a 10-foot rise, support a vaulted glass and a concrete skylight 160 feet long.

The skylight is erected over the court at the third floor level, and the craneway at the second floor. This allows for a 24-foot lift which is adequate for the needs of the research laboratories.



A. O. Smith Corporation's laboratory building under construction at Milwaukee

As a precaution against condensation on the under side of the skylight, warm dry air will be blown through ports placed along the sides of girders.

A. O. Smith's engineering force, which will carry on its work in the new research and engineering building, now consists of 500 men, but is soon to be increased to 1000.

INTERNATIONALLY FAMOUS

ALEXANDRIA HOTEL

IT COSTS NO MORE TO STOP AT THE DISTINCTIVE WORLD-FAMOUS ALEXANDRIA THAN AT THE AVERAGE HOTEL

RATES
Single with bath $3 to $8
Double with bath $4 to $10
ATTRACTIVE WEEKLY-MONTHLY AND RESIDENTIAL RATES

CORNER FIFTH & SPRING STREETS

THE VERY CENTRE OF THINGS

The Alexandria Hotel is an affiliated unit of The Eppley Hotel Cos 20 Hotels in the Middle West, Louisville, Ky. and Pittsburgh, Pa. & the Hamilton chain of Hotels in California

E. C. EPPLEY
President

CHARLES B. HAMILTON
Vice-President and Managing Director

CHICAGO OFFICE
520 No. Michigan Ave.
Suite 422
Phone – Superior 4416

LOS ANGELES

TYLER

TUBES TO MEET EVERY OIL FIELD NEED

Whether you need standard tubes—or tubes designed to meet special requirements — we can serve you promptly and economically.

THE TYLER TUBE & PIPE CO.
WASHINGTON, PA.

Write for complete information—you will not be obligated.

Texas Stock—Harrisburg Pipe and Pipe Bending Co. of Texas, Inc., Houston, Texas

Oklahoma Representative:
Harrisburg Supply Co.
Tulsa, Oklahoma

BOILER TUBES

Core Drill Sets Casing
while well makes 35 million gas

How a well making thirty-five million feet of gas was brought under control, recently made a dramatic story for the newspapers.

Thirteen hundred feet down, 240 feet of casing had collapsed. To remove it and reset new casing was the daring feat of the drill crew, working under an experienced Sullivan drill man.

But those who witnessed the incident were impressed also with the work of the Sullivan Core Drill. Especially important was its ability to back away from the hole on its own power, leaving ample room for working around the hole . . . the absence of rotary table, and the ability of the drill to control pressure.

Are you familiar with the many new developments which make Sullivan Core Drills a source of profits for you? Send for Booklets 85-H, and 85-K.

SULLIVAN
MACHINERY COMPANY
713 WRIGLEY BLDG., CHICAGO
Agent for Oklahoma and Kansas
GEO. E. FAILING, Enid, Okla.

Sullivan "60" Core Drill showing device for moving drill back from hole 5 feet when rods are to be hoisted.

SULLIVAN CORE DRILLS
protect oil investments

SQUEAKS FROM THE BULL WHEEL

A group of men at the club was discussing something very earnestly, and the man from Aberdeen approached and asked the subject of the discussion.

"Will you join our anti-tipping society?" asked one of the group. "We consider that tipping is a degrading custom, and have formed a society to put a stop to it."

"Aye, I'll joint," sand the man from Aberdeen, gladly.

"That's fine, and the subscription is a shilling a year."

"Och, in that case I'm thinking that it'll be cheaper for me to tip."

An orator warming to his task, took off his coat, which rather disconcerted one of the stewards of the meeting, who thought that a reporter would make a sensation out of the incident.

Toward the close, he said to the speaker: "I don't suppose you knew, when you removed your coat, that a newspaper man was present?"

"Yes, I did," was the reply, "but I kept my eye on the coat all the time."

But your wife said she'd forgive and forget.

Yes, she forgot she'd forgiven.

"Papa, teacher asked us to find some new words that have just come into the English language. Can you tell me some?"

"Go and ask your mother, son. She always has the last word."

"Look and see how much gas we've got, will you?"

"It points to ½, but I don't know whether it means half-full or half-empty."

"The enemy are as thick as peas. What shall we do?"

"Shell them, you idiot; shell them!"

"Hello, Bobbie. What are you looking for, huh?"

"Looking for elephants. You got any elephants or giraffes or lions with you?"

"No, not one. I see you like animals."

"Yeah. Got any ponies or anteaters or nuffin with you?"

"No, of course not. How do you expect me to carry around such a menagerie with me, Bobby?"

"Well, you did the other day."

"What day? What do you mean?"

"Well, anyhow, mama told papa at dinner that she seen you on the street and you looked like a circus."

"Did you cancel all my engagements, as I told you, Smithers?"

"Yes, sir, but Lady Millicent didn't take it very well. She said you were to marry her next Monday."

"What do you do?"

"I keep house, scrub, scour, bake, wash dishes, cook, do the laundry, iron, sew."

And the census taker listed her: "Housewife—no occupation."

Betty: I hear your boy friend wants to settle down and get a home.

Edna: Well he's got a good start. I gave him the gate last night.

Judge: Caught in the act of window-peeping, eh? That's pretty serious. Are you married?

Prisoner: No. Your Honor: that's the trouble. I'm looking for a wife, and I went window shopping.

Angry father (at 2 a. m.): "Well, young lady, explain yourself. Where have you been all night?"

Daughter: "I was sitting up with the sick son of the sick man you always tell mother you sit up with."

Little Boy (calling father at office): "Hello, who is this?"

Father (recognizing son's voice): "The smartest man in the world."

Little Boy: "Pardon me, I got the wrong number."

A Scotchman, wishing to know his fate at once, telegraphed a proposal of marriage to the lady of his choice. After spending the entire day at the telegraph office, he was finally rewarded late in the evening by an affirmative answer.

"If I were you," suggested the operator, when he delivered the message, "I'd think twice before I'd marry a girl that kept me waiting all day for an answer."

"Na, na," retorted the Scot. "The lass who waits for the night rates is the lass for me."

The doctor told Jones not to stay out late nights.

"You think the night air is bad for me, doc?"

"No," said the physician, "it isn't that. It's the excitement after getting home that hurts you."

"O dear, O dear, I dreamed that you had died."

"Don't cry, dear. Why let a bad dream upset you so? I'm still with you."

"Yes, I know, Darling, but I was about to cash your insurance check when the alarm woke me and spoiled it all."

Papa Skunk says—"Remember, children, millions for defense, but not one scent for tribute."

APPLEMAN GUMBO BITS

You'll Cut Costs With This Bit

Because . . . .

Choking-up is obviated, water courses leading directly to the cutting edge assure the quick washing away of all cuttings in solution.

The blades are self-sharpening, achieved by concave formation and hard facing permitting wear on the back of the blade to retain the cutting edges.

The APPLEMAN GUMBO BIT holds gauge longer and cuts the sidewall as it drills. This accomplishes a full round hole and a well prepared sidewall.

Use the APPLEMAN BIT on your next well.

B. K. APPLEMAN
BEAUMONT, TEXAS

For Running Tools Under Pressure with Complete Control

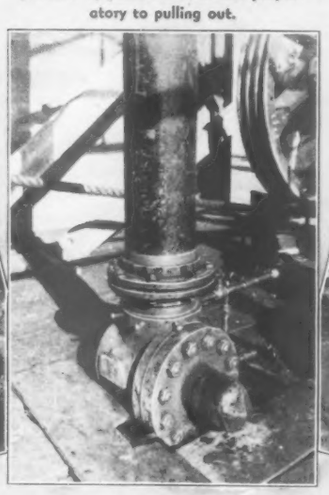
ALL-PURPOSE and TYPE X Control Head equipment are in use at Lovell, Big Lake, Yates Pool, Graham, Chandler, Oklahoma City, etc., for "lubricating" tools under pressure - - - with complete control at all times. TYPE X is used for nominal pressures and ALL-PURPOSE equipment for high pressures.

THE OIL WELL IMPROVEMENTS CO.
Tulsa, Okla.

ALL-PURPOSE Control Head and All-Purpose Oil Saver on Oklahoma City well - - - - Tools in hole and drilling

Type "X" Control Head on Oklahoma City well. Tools drilling.

Lubricating Chamber in position with pressure by-passed to chamber preparatory to pulling out.



Tools out. Control Head closed and lubricating chamber detached.

O.W.I. Co. "All-Purpose" and Type "X" CONTROL HEADS

INDEX TO ADVERTISERS

J. S. Abercrombie Company.....
Acme Fishing Tool Company 100
Ajax Iron Works .....
Alco Oil Tool Company .....
Alamo Iron Works 112
Alexandria Hotel 119
Allsteel Products Manufacturing Co. 106
Alten's Foundry & Machine Works...
Aluminum Company of America 18
American Association of Petroleum Geologists .....
American Cable Company .....
American Hammered Piston Ring Co.
American Iron & Machine Works ...
American Meter Company .....
American Roller Bearing Company ..
American Steel Works .....
American Steel & Wire Company ....
American Telegraph & Telephone Co.
American Tank & Equipment Corp. 4
The American Well Works 102
B. K. Appleman 120
Ash Grove Lime & Portland Cement Company .....
Athey Truss Wheel Company 107
C. L. & W. W. Auer.....
Axelson Manufacturing Co. Fourth Cover

Baash-Ross Tool Company .....
Badgett Steam Lubricator Company..
Baldwin-Duckworth Chain Corporation
Baker Oil Tools, Incorporated..... 20
William S. Barnickel Company.....
The Barrett Company 38-39
The Bartlett Hayward Company 7
Beaumont Iron Works .....
Beebe Brothers .....
Bessemer Gas Engine Company .....
Bethlehem Steel Company .....
Black, Sivalls & Bryson.....
Blackor Company .....
Borden Company .....
Brauer Machine & Supply Company..
The Brewster Company .....
Bridgeport Machine Company .....
T. A. Brown .....
Brust Tool Manufacturing Company..
Buckeye Traction Ditcher Company ..
Burns Tool Company 105
Butler Manufacturing Company 11
A. M. Byers Company 81
Byron Jackson Company 8

California Talc Company .....
Cameron Iron Works .....
Caterpillar Tractor Company .....
Champion and Barber, Inc. .....
Chain Belt Company .....
Chicago Bridge & Iron Works .....
City Ready Cut House Company ....
Clark Brothers Company .....
Climax Engineering Company .....
Columbian Steel Tank Company ....
Continental Supply Company 15
Fred E. Cooper .....
The Cooper-Bessemer Corporation...44-45
The Corbett Corporation 59
Corona Silica Company .....
Cyclone Fence Company .....

Darling Valve & Manufacturing Co... 6
E. M. Dart Manufacturing Company..106
Diamond Drill Carbon Company.....
Donovan Boiler Works .....
S. R. Dresser Manufacturing Company
E. I. Dupont de Nemours & Company

Eason-Theroff Tool Company .....
E. H. Edwards Company .....
The Economy Pump & Oil Tool Co. ..
Elliott Core Drilling Company 37
Emsco Derrick & Equipment Co. ...

Fenwick-Reddaway Manufacturing Co.. 86
First National Bank, Houston.....
Fort Worth Laboratories.....104
Franklin Valveless Engine Company..
Exchange Banks of Tulsa .....
Frick-Reid Supply Corporation..... 89

Garland Wagon Company .....
Gardner-Denver Company .....
Gaso Pump & Burner Manufacturing Company 3
Gates Rubber Company .....
General Electric Company .....
L. H. Gilmer Company .....
Globe Oil Tools Company .....
H. P. Gott Manufacturing Company..
B. F. Goodrich Rubber Company.....
Granger Indicator Company 102
Grant Oil Tool Company .....
Gray Tool Company .....
Greene, Tweed & Company .....
The Guiberson Corporation 49
Gulf Coast Machine & Supply Co.....104
The Gulf Publishing Company 63
Gulf Refining Company 111
Gulf States Utilities Company .....

Halliburton Oil Well Cementing Co. .. 5
Hardway & Cathey 104
Hart Brothers Machine Company ....
Haynes Stellite Company .....
Harrisburg Pipe & Pipe Bending Company .....
Hazard Wire Rope Company 10
C. M. Heeter & Sons Company .....
Hercules Motors Corporation.....
Hercules Supply Company 19
Hercules Tool Company .....
Hewitt Gutta-Percha Rubber Corp...
Heydrick Mapping Company 104
Hinderliter Tool Company .....
Geo. O. Hollow Company .....
Hopper Machine Company .....
Hirsch, Brown & Sussman.....104
The Charles N. Hough Manufacturing Company .....
Houston National Bank .....
Houston Ready-Cut House Company..
Hughes Tool Company .....Front Cover
Humble Oil & Refining Company.....
Hyatt Roller Bearing Company .....

Ingersoll-Rand Company .....
The International Derrick & Equipment Company 41
International Harvester Company 35
Iverson Tool Company .....

Byron Jackson Company 8
Jarecki Manufacturing Company .....
Jensen Brothers Manufacturing Co. ..
Johnson Formation Testing Corp. ....
Jones & Laughlin Steel Corporation..

Kerotest Manufacturing Company ....
Kirk-Morrow Iron Works Company..

Landis Machine Company .....
Larkin Packer Company .....
The Layne & Bowler Company .....
Layne & Bowler, Inc. .....
A. Leschen & Sons Rope Company..
Lincoln Electric Company 114
Link Belt Company .....
Litterest Commercial Photo Company
Lucey Products Corporation.....
Lufkin Foundry & Machine Company 109

MacClatchie Manufacturing Company..
Maintenance Engineering Company ..100
McCollum Exploration Company 104
D.S. Mair Machinery Corporation....106
J. H. McEvoy & Company.....
Maloney Tank Manufacturing Co.....101
Martin-Decker Corporation .....
Martin Wagon Company.....
Merchant-Thayer & Company .....
Metric Metal Works .....
Mills Alloys, Inc. .....
Mills Iron Works .....
Miller Combination Bailer & Pump Co.
Miller Sand Pump Company.....103
Mine Safety Appliance Company.....
Robert J. Miller Company 50
Lee C. Moore & Company 43
The Morris Company 67
I. P. Morris & DeLaVergne, Inc. ... 87
Murray Tool & Supply Company.....

National Supply Companies 12
National Tank Company .....
National Transit Pump & Machine Co.
National Tube Company .....
Naylor Pipe Company 16
Norvell-Wilder Supply Co. Second Cover

Oakite Products, Incorporated .....
O'Brien Steel Construction Company
O. C. S. Manufacturing Company....
Oklahoma City Chamber of Commerce
Oklahoma Contracting Company ....
Oil Center Tool Company 106
Oil Well Improvements Company....121
Oil Well Supply Company 22

Page Steel & Wire Company .....
Parkersburg Machine Company.....
The Parkersburg Rig & Reel Co. 71
Patterson-Ballagh Corporation 117
Peden Company .....
Petroleum Equipment Company.....
Petroleum Rectifying Company.....
Pittsburgh Equitable Meter Company 14
Pittsburgh Screw & Bolt Corporation
Pittsburgh Steel Products Company.. 13
Portable Rig Company .....
Pratt & Whitney Company .....
Pyrene Manufacturing Company.....

Reading Iron Company .....
Regan Forge & Engineering Company
Reed Roller Bit Company.....
Joseph Reid Gas Engine Company....
Republic Supply Company 73
Republic Steel Corporation 9
Resistcor Engineering Corporation....
Rollway Bearing Company 92

Sears Map & Blue Print Company ..104
Second National Bank .....
J. E. Shaffer Company.....
Shaffer Tool Works .....
Sheldon Machinery Corporation.....
Sinclair Refining Company .....
SKF Industries, Inc. .....
A. O. Smith Corporation .....
E. M. Smith Company.....
Howard Smith Company .....
Smith Separator Company .....
Spang & Company .....
South Chester Tube Company.....
Spang, Chalfant & Company .....
Southern Engine & Pump Company..
Southern Pacific Lines .....
Specialty Oil Tool Company .....
Spengler Tool Company 113
Sperry-Sun Well Surveying Company
Eugene C. Stacy .....
Standard Day-a-Nite Company.....
Star Drilling Machine Company .....
Jesse R. Stone 104
Sullivan Machinery Company 119

Technical Products, Inc. .....
Texas Blue Print & Supply Company..104
Texas Cyclone Fence Company.....
Texas Electric Steel Casting Company
Texas Iron Works .....
The Thrift Corporation.....
The Timken Roller Bearing Company 68
The Titusville Iron Works Company..
Trimont Manufacturing Company.....
Trumble Gas Trap Company .....
The Tyler Tube & Pipe Company....119

Union Carbide & Carbon Corporation
Union Wire Rope Company..... 17

Vez Company .....
Victaulic Company of America.....
Victor Balata & Textile Belting Co. ..
Vickers Machine Works .....

Westcott Valve Company 91
Westinghouse Electric & Manufacturing Company .....
Wickwire Spencer Steel Company....
Wico Electric Company .....
Williamsport Wire Rope Company....
J. H. Williams & Company.....
Wilson Supply Company .....
W-K-M Company .....Third Cover
The Wright Machine Company.....
Wright Manufacturing Company ....
Wyatt Metal & Boiler Works.....
T. T. Word Supply Co. 74

Young Engine Corporation .....
Youngstown Sheet & Tube Company.. 60

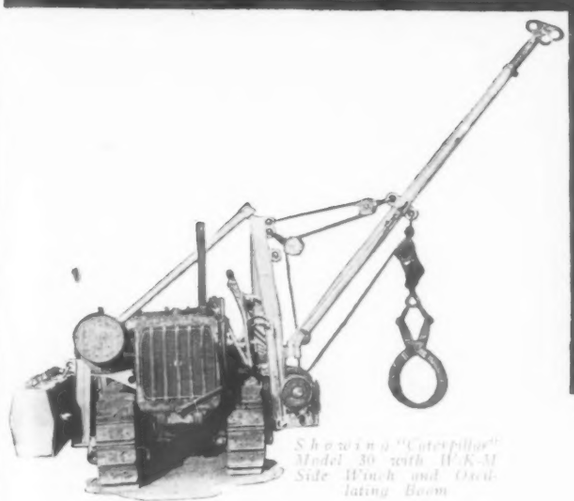
Every precaution has been taken to insure accuracy in listings in this Index to Advertisers, but last minute changes may result in omissions or erroneous listings for which we ask your indulgence. This index is for the convenience of readers and we do not assume liability for improper listings

It costs you

NOTHING!

W-K-M Pipe-Line Equipment

Speeds-up Work—Reduces Labor—Cuts Overhead Operating Costs—Saves Its Purchase Price!



Showing "Caterpillar" Model 30 with W-K-M Side Winch and Oscillating Boom

By saving its purchase price many times through reduced labor overhead, increased activity along pipe-lines, and general utility on any job, W-K-M Pipe-Handling Units are fairly said to *cost their owners nothing!* Your present «Caterpillar», McCormick-Deering, Fordson, or Allis-Chalmers tractor can be equipped with one of these units in a few hours. Enquire through any authorized tractor dealer.

W-K-M Company, Inc.

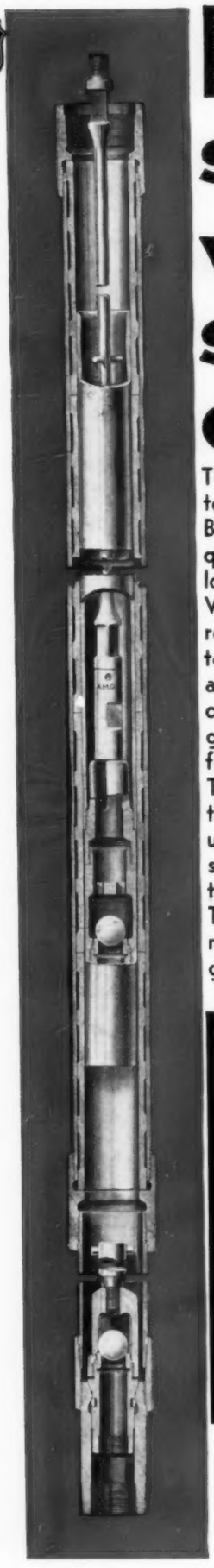
OIL FIELD, PIPE-LINE & INDUSTRIAL EQUIPMENT

HOUSTON, Texas, U. S. A.

Export Office: 74 Trinity Place, New York

Cable Address: "WILKOMAC"

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY



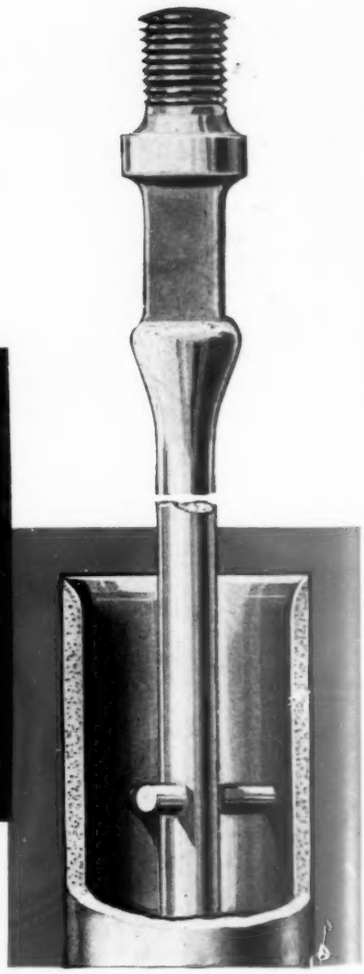
Handles sand without sacrifice of fluid Volume

Total fluid volume is the determining factor in pumping oil wells and the Axelson Barnwell Plunger not only handles large quantities of sand but handles it without lowering production of the well.

Valves are close together and for this reason gas troubles are eliminated. The top of the Barnwell Plunger is open, allowing free passage of oil into the fluid column. There are no production congestions, for the fluid carries the sand free and the wells are kept clean.

The construction of the plunger is such that a slight expansion is possible on the up stroke which keeps the liners clean of sand while on the down stroke the frictional resistance is decreased.

These are the salient features. Let our representatives tell you about this plunger in detail.



AXELSON BARNWELL PLUNGER ASSEMBLY

Axelson Manufacturing Co., Ltd.

P. O. Box 337, Los Angeles

Tulsa St. Louis New York City, 30 Church St.

Mid-Continent and Eastern Distributors

FRICK-REID SUPPLY CORPORATION